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<110> Simard, John J. L.
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Liu, Liping
Liu, Zheng

<120> EPITOPE SEQUENCES

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<141> 2003-09-04

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<151> 2002-09-06

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Asn Gly Ser Thr Pro Met Phe Asn Asp Ile Asn Ile Tyr Asp Leu Phe
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Val Trp Met His Tyr Tyr Val Ser Met Asp Ala Leu Leu Gly Gly Ser
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Glu Ile Trp Arg Asp Ile Asp Phe Ala His Glu Ala Pro Ala Phe Leu
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Pro Trp His Arg Leu Phe Leu Leu Arg Trp Glu Gln Glu Ile Gln Lys
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Cys Asn Gly Thr Pro Glu Gly Pro Leu Arg Arg Asn Pro Gly Asn His
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Asn Phe Ser Phe Arg Asn Thr Leu Glu Gly Phe Ala Ser Pro Leu Thr
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Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly Phe Lys
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Pro Lys Lys Pro Ala Glu Glu Gly Asn Asp Ser Glu Glu Val Pro Glu
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Ala Thr Asn Ile Thr Pro Lys His Asn Met Lys Ala Phe Leu Asp Glu
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Gln Ser Gln Trp Lys Glu Phe Gly Leu Asp Ser Val Glu Leu Ala His
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Tyr Asp Val Leu Leu Ser Tyr Pro Asn Lys Thr His Pro Asn Tyr Ile
        115   120   125
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145   150   155   160
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Asp Arg Tyr Val Ile Leu Gly Gly His Arg Asp Ser Trp Val Phe Gly
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His Val Ile Tyr Ala Pro Ser Ser His Asn Lys Tyr Ala Gly Glu Ser
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Leu Val Tyr Val Asn Tyr Ala Arg Thr Glu
 1   5   10

<210> 40

<211> 9
<212> PRT
<213> Homo sapiens

<400> 40
Val Asn Tyr Ala Arg Thr Glu Asp Phe
 1   5

<210> 41
<211> 10
<212> PRT
<213> Homo sapiens

<400> 41
Tyr Val Asn Tyr Ala Arg Thr Glu Asp Phe
 1   5   10

<210> 42
<211> 9
<212> PRT
<213> Homo sapiens

<400> 42
Asn Tyr Ala Arg Thr Glu Asp Phe Phe
 1   5

<210> 43
<211> 8
<212> PRT
<213> Homo sapiens

<400> 43
Tyr Ala Arg Thr Glu Asp Phe Phe
 1   5

<210> 44
<211> 9
<212> PRT
<213> Homo sapiens

<400> 44
Arg Thr Glu Asp Phe Phe Lys Leu Glu
 1   5

<210> 45
<211> 30
<212> PRT
<213> Homo sapiens

<400> 45
Arg Gly Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro
 1   5   10   15

Ile Gly Tyr Tyr Asp Ala Gln Lys Leu Leu Glu Lys Met Gly
20 25 30

<210> 46
<211> 25
<212> PRT
<213> Homo sapiens

<400> 46
Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro Ile Gly
1 5 10 15
Tyr Tyr Asp Ala Gln Lys Leu Leu Glu
20 25

<210> 47
<211> 9
<212> PRT
<213> Homo sapiens

<400> 47
Leu Pro Ser Ile Pro Val His Pro Ile
1 5

<210> 48
<211> 10
<212> PRT
<213> Homo sapiens

<400> 48
Gly Leu Pro Ser Ile Pro Val His Pro Ile
1 5 10

<210> 49
<211> 9
<212> PRT
<213> Homo sapiens

<400> 49
Ile Gly Tyr Tyr Asp Ala Gln Lys Leu
1 5

<210> 50
<211> 10
<212> PRT
<213> Homo sapiens

<400> 50
Pro Ile Gly Tyr Tyr Asp Ala Gln Lys Leu
1 5 10

<210> 51

<211> 9
<212> PRT
<213> Homo sapiens

<400> 51
Ser Ile Pro Val His Pro Ile Gly Tyr
 1   5

<210> 52
<211> 10
<212> PRT
<213> Homo sapiens

<400> 52
Pro Ser Ile Pro Val His Pro Ile Gly Tyr
 1   5   10

<210> 53
<211> 8
<212> PRT
<213> Homo sapiens

<400> 53
Ile Pro Val His Pro Ile Gly Tyr
 1   5

<210> 54
<211> 9
<212> PRT
<213> Homo sapiens

<400> 54
Tyr Tyr Asp Ala Gln Lys Leu Leu Glu
 1   5

<210> 55
<211> 27
<212> PRT
<213> Homo sapiens

<400> 55
Ser Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu
 1   5   10   15
Met Tyr Ser Leu Val His Leu Thr Lys Glu Leu
            20   25

<210> 56
<211> 9
<212> PRT
<213> Homo sapiens

<400> 56

Ile Glu Gly Asn Tyr Thr Leu Arg Val
1 5

<210> 57
<211> 10
<212> PRT
<213> Homo sapiens

<400> 57
Ser Ile Glu Gly Asn Tyr Thr Leu Arg Val
1 5 10

<210> 58
<211> 8
<212> PRT
<213> Homo sapiens

<400> 58
Glu Gly Asn Tyr Thr Leu Arg Val
1 5

<210> 59
<211> 9
<212> PRT
<213> Homo sapiens

<400> 59
Thr Leu Arg Val Asp Cys Thr Pro Leu
1 5

<210> 60
<211> 10
<212> PRT
<213> Homo sapiens

<400> 60
Tyr Thr Leu Arg Val Asp Cys Thr Pro Leu
1 5 10

<210> 61
<211> 9
<212> PRT
<213> Homo sapiens

<400> 61
Leu Arg Val Asp Cys Thr Pro Leu Met
1 5

<210> 62
<211> 9
<212> PRT

<213> Homo sapiens

<400> 62
Arg Val Asp Cys Thr Pro Leu Met Tyr
 1   5

<210> 63
<211> 10
<212> PRT
<213> Homo sapiens

<400> 63
Leu Arg Val Asp Cys Thr Pro Leu Met Tyr
 1   5   10

<210> 64
<211> 35
<212> PRT
<213> Homo sapiens

<400> 64
Phe Asp Lys Ser Asn Pro Ile Val Leu Arg Met Met Asn Asp Gln Leu
 1   5   10   15
Met Phe Leu Glu Arg Ala Phe Ile Asp Pro Leu Gly Leu Pro Asp Arg
            20   25   30
Pro Phe Tyr
        35

<210> 65
<211> 22
<212> PRT
<213> Homo sapiens

<400> 65
Val Leu Arg Met Met Asn Asp Gln Leu Met Phe Leu Glu Arg Ala Phe
 1   5   10   15
Ile Asp Pro Leu Gly Leu
            20

<210> 66
<211> 9
<212> PRT
<213> Homo sapiens

<400> 66
Met Met Asn Asp Gln Leu Met Phe Leu
 1   5

<210> 67
<211> 10
<212> PRT
<213> Homo sapiens

<400> 67
Arg Met Met Asn Asp Gln Leu Met Phe Leu
 1   5   10

<210> 68
<211> 9
<212> PRT
<213> Homo sapiens

<400> 68
Arg Met Met Asn Asp Gln Leu Met Phe
 1   5

<210> 69
<211> 17
<212> PRT
<213> Homo sapiens

<400> 69
Met Leu Leu Ala Val Leu Tyr Cys Leu Leu Trp Ser Phe Gln Thr Ser
 1   5   10   15
Ala

<210> 70
<211> 661
<212> PRT
<213> Homo sapiens

<400> 70
Met Asp Leu Val Leu Lys Arg Cys Leu Leu His Leu Ala Val Ile Gly
 1   5   10   15
Ala Leu Leu Ala Val Gly Ala Thr Lys Val Pro Arg Asn Gln Asp Trp
            20   25   30
Leu Gly Val Ser Arg Gln Leu Arg Thr Lys Ala Trp Asn Arg Gln Leu
        35   40   45
Tyr Pro Glu Trp Thr Glu Ala Gln Arg Leu Asp Cys Trp Arg Gly Gly
    50   55   60
Gln Val Ser Leu Lys Val Ser Asn Asp Gly Pro Thr Leu Ile Gly Ala
65   70   75   80
Asn Ala Ser Phe Ser Ile Ala Leu Asn Phe Pro Gly Ser Gln Lys Val
                85   90   95
Leu Pro Asp Gly Gln Val Ile Trp Val Asn Asn Thr Ile Ile Asn Gly
            100   105   110
Ser Gln Val Trp Gly Gly Gln Pro Val Tyr Pro Gln Glu Thr Asp Asp
        115   120   125
Ala Cys Ile Phe Pro Asp Gly Gly Pro Cys Pro Ser Gly Ser Trp Ser
    130   135   140
Gln Lys Arg Ser Phe Val Tyr Val Trp Lys Thr Trp Gly Gln Tyr Trp
145   150   155   160
Gln Val Leu Gly Gly Pro Val Ser Gly Leu Ser Ile Gly Thr Gly Arg
                165   170   175
Ala Met Leu Gly Thr His Thr Met Glu Val Thr Val Tyr His Arg Arg

```
            180                 185                 190
Gly Ser Arg Ser Tyr Val Pro Leu Ala His Ser Ser Ser Ala Phe Thr
        195                 200                 205
Ile Thr Asp Gln Val Pro Phe Ser Val Ser Val Ser Gln Leu Arg Ala
    210                 215                 220
Leu Asp Gly Gly Asn Lys His Phe Leu Arg Asn Gln Pro Leu Thr Phe
225                 230                 235                 240
Ala Leu Gln Leu His Asp Pro Ser Gly Tyr Leu Ala Glu Ala Asp Leu
                245                 250                 255
Ser Tyr Thr Trp Asp Phe Gly Asp Ser Ser Gly Thr Leu Ile Ser Arg
            260                 265                 270
Ala Pro Val Val Thr His Thr Tyr Leu Glu Pro Gly Pro Val Thr Ala
        275                 280                 285
Gln Val Val Leu Gln Ala Ala Ile Pro Leu Thr Ser Cys Gly Ser Ser
    290                 295                 300
Pro Val Pro Gly Thr Thr Asp Gly His Arg Pro Thr Ala Glu Ala Pro
305                 310                 315                 320
Asn Thr Thr Ala Gly Gln Val Pro Thr Thr Glu Val Val Gly Thr Thr
                325                 330                 335
Pro Gly Gln Ala Pro Thr Ala Glu Pro Ser Gly Thr Thr Ser Val Gln
            340                 345                 350
Val Pro Thr Thr Glu Val Ile Ser Thr Ala Pro Val Gln Met Pro Thr
        355                 360                 365
Ala Glu Ser Thr Gly Met Thr Pro Glu Lys Val Pro Val Ser Glu Val
    370                 375                 380
Met Gly Thr Thr Leu Ala Glu Met Ser Thr Pro Glu Ala Thr Gly Met
385                 390                 395                 400
Thr Pro Ala Glu Val Ser Ile Val Val Leu Ser Gly Thr Thr Ala Ala
                405                 410                 415
Gln Val Thr Thr Thr Glu Trp Val Glu Thr Thr Ala Arg Glu Leu Pro
            420                 425                 430
Ile Pro Glu Pro Glu Gly Pro Asp Ala Ser Ser Ile Met Ser Thr Glu
        435                 440                 445
Ser Ile Thr Gly Ser Leu Gly Pro Leu Leu Asp Gly Thr Ala Thr Leu
    450                 455                 460
Arg Leu Val Lys Arg Gln Val Pro Leu Asp Cys Val Leu Tyr Arg Tyr
465                 470                 475                 480
Gly Ser Phe Ser Val Thr Leu Asp Ile Val Gln Gly Ile Glu Ser Ala
                485                 490                 495
Glu Ile Leu Gln Ala Val Pro Ser Gly Glu Gly Asp Ala Phe Glu Leu
            500                 505                 510
Thr Val Ser Cys Gln Gly Gly Leu Pro Lys Glu Ala Cys Met Glu Ile
        515                 520                 525
Ser Ser Pro Gly Cys Gln Pro Pro Ala Gln Arg Leu Cys Gln Pro Val
    530                 535                 540
Leu Pro Ser Pro Ala Cys Gln Leu Val Leu His Gln Ile Leu Lys Gly
545                 550                 555                 560
Gly Ser Gly Thr Tyr Cys Leu Asn Val Ser Leu Ala Asp Thr Asn Ser
                565                 570                 575
Leu Ala Val Val Ser Thr Gln Leu Ile Met Pro Gly Gln Glu Ala Gly
            580                 585                 590
Leu Gly Gln Val Pro Leu Ile Val Gly Ile Leu Leu Val Leu Met Ala
        595                 600                 605
Val Val Leu Ala Ser Leu Ile Tyr Arg Arg Arg Leu Met Lys Gln Asp
    610                 615                 620
Phe Ser Val Pro Gln Leu Pro His Ser Ser Ser His Trp Leu Arg Leu
625                 630                 635                 640
```

```
Pro Arg Ile Phe Cys Ser Cys Pro Ile Gly Glu Asn Ser Pro Leu Leu
                645                 650                 655
Ser Gly Gln Gln Val
            660
```

<210> 71
<211> 309
<212> PRT
<213> Homo sapiens

<400> 71

```
Met Ser Leu Glu Gln Arg Ser Leu His Cys Lys Pro Glu Glu Ala Leu
 1               5                  10                  15
Glu Ala Gln Gln Glu Ala Leu Gly Leu Val Cys Val Gln Ala Ala Thr
            20                  25                  30
Ser Ser Ser Ser Pro Leu Val Leu Gly Thr Leu Glu Glu Val Pro Thr
        35                  40                  45
Ala Gly Ser Thr Asp Pro Pro Gln Ser Pro Gln Gly Ala Ser Ala Phe
    50                  55                  60
Pro Thr Thr Ile Asn Phe Thr Arg Gln Arg Gln Pro Ser Glu Gly Ser
65                  70                  75                  80
Ser Ser Arg Glu Glu Glu Gly Pro Ser Thr Ser Cys Ile Leu Glu Ser
                85                  90                  95
Leu Phe Arg Ala Val Ile Thr Lys Lys Val Ala Asp Leu Val Gly Phe
            100                 105                 110
Leu Leu Leu Lys Tyr Arg Ala Arg Glu Pro Val Thr Lys Ala Glu Met
        115                 120                 125
Leu Glu Ser Val Ile Lys Asn Tyr Lys His Cys Phe Pro Glu Ile Phe
    130                 135                 140
Gly Lys Ala Ser Glu Ser Leu Gln Leu Val Phe Gly Ile Asp Val Lys
145                 150                 155                 160
Glu Ala Asp Pro Thr Gly His Ser Tyr Val Leu Val Thr Cys Leu Gly
                165                 170                 175
Leu Ser Tyr Asp Gly Leu Leu Gly Asp Asn Gln Ile Met Pro Lys Thr
            180                 185                 190
Gly Phe Leu Ile Ile Val Leu Val Met Ile Ala Met Glu Gly Gly His
        195                 200                 205
Ala Pro Glu Glu Glu Ile Trp Glu Glu Leu Ser Val Met Glu Val Tyr
    210                 215                 220
Asp Gly Arg Glu His Ser Ala Tyr Gly Glu Pro Arg Lys Leu Leu Thr
225                 230                 235                 240
Gln Asp Leu Val Gln Glu Lys Tyr Leu Glu Tyr Arg Gln Val Pro Asp
                245                 250                 255
Ser Asp Pro Ala Arg Tyr Glu Phe Leu Trp Gly Pro Arg Ala Leu Ala
            260                 265                 270
Glu Thr Ser Tyr Val Lys Val Leu Glu Tyr Val Ile Lys Val Ser Ala
        275                 280                 285
Arg Val Arg Phe Phe Phe Pro Ser Leu Arg Glu Ala Ala Leu Arg Glu
    290                 295                 300
Glu Glu Glu Gly Val
305
```

<210> 72
<211> 314
<212> PRT

<213> Homo sapiens

<400> 72
Met Pro Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu
 1   5   10   15
Glu Ala Arg Gly Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Ala
            20   25   30
Thr Glu Glu Gln Gln Thr Ala Ser Ser Ser Ser Thr Leu Val Glu Val
        35   40   45
Thr Leu Gly Glu Val Pro Ala Ala Asp Ser Pro Ser Pro Pro His Ser
    50   55   60
Pro Gln Gly Ala Ser Ser Phe Ser Thr Thr Ile Asn Tyr Thr Leu Trp
65   70   75   80
Arg Gln Ser Asp Glu Gly Ser Ser Asn Gln Glu Glu Glu Gly Pro Arg
                85   90   95
Met Phe Pro Asp Leu Glu Ser Glu Phe Gln Ala Ala Ile Ser Arg Lys
            100   105   110
Met Val Glu Leu Val His Phe Leu Leu Leu Lys Tyr Arg Ala Arg Glu
        115   120   125
Pro Val Thr Lys Ala Glu Met Leu Glu Ser Val Leu Arg Asn Cys Gln
    130   135   140
Asp Phe Phe Pro Val Ile Phe Ser Lys Ala Ser Glu Tyr Leu Gln Leu
145   150   155   160
Val Phe Gly Ile Glu Val Val Glu Val Val Pro Ile Ser His Leu Tyr
                165   170   175
Ile Leu Val Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly Asp
            180   185   190
Asn Gln Val Met Pro Lys Thr Gly Leu Leu Ile Ile Val Leu Ala Ile
        195   200   205
Ile Ala Ile Glu Gly Asp Cys Ala Pro Glu Glu Lys Ile Trp Glu Glu
    210   215   220
Leu Ser Met Leu Glu Val Phe Glu Gly Arg Glu Asp Ser Val Phe Ala
225   230   235   240
His Pro Arg Lys Leu Leu Met Gln Asp Leu Val Gln Glu Asn Tyr Leu
                245   250   255
Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Cys Tyr Glu Phe Leu
            260   265   270
Trp Gly Pro Arg Ala Leu Ile Glu Thr Ser Tyr Val Lys Val Leu His
        275   280   285
His Thr Leu Lys Ile Gly Gly Glu Pro His Ile Ser Tyr Pro Pro Leu
    290   295   300
His Glu Arg Ala Leu Arg Glu Gly Glu Glu
305   310

<210> 73
<211> 314
<212> PRT
<213> Homo sapiens

<400> 73
Met Pro Leu Glu Gln Arg Ser Gln His Cys Lys Pro Glu Glu Gly Leu
 1   5   10   15
Glu Ala Arg Gly Glu Ala Leu Gly Leu Val Gly Ala Gln Ala Pro Ala
            20   25   30
Thr Glu Glu Gln Glu Ala Ala Ser Ser Ser Ser Thr Leu Val Glu Val
        35   40   45

```
Thr Leu Gly Glu Val Pro Ala Ala Glu Ser Pro Asp Pro Pro Gln Ser
    50                  55                  60
Pro Gln Gly Ala Ser Ser Leu Pro Thr Thr Met Asn Tyr Pro Leu Trp
65                  70                  75                  80
Ser Gln Ser Tyr Glu Asp Ser Ser Asn Gln Glu Glu Glu Gly Pro Ser
                85                  90                  95
Thr Phe Pro Asp Leu Glu Ser Glu Phe Gln Ala Ala Leu Ser Arg Lys
            100                 105                 110
Val Ala Glu Leu Val His Phe Leu Leu Leu Lys Tyr Arg Ala Arg Glu
        115                 120                 125
Pro Val Thr Lys Ala Glu Met Leu Gly Ser Val Val Gly Asn Trp Gln
    130                 135                 140
Tyr Phe Phe Pro Val Ile Phe Ser Lys Ala Ser Ser Ser Leu Gln Leu
145                 150                 155                 160
Val Phe Gly Ile Glu Leu Met Glu Val Asp Pro Ile Gly His Leu Tyr
                165                 170                 175
Ile Phe Ala Thr Cys Leu Gly Leu Ser Tyr Asp Gly Leu Leu Gly Asp
            180                 185                 190
Asn Gln Ile Met Pro Lys Ala Gly Leu Leu Ile Ile Val Leu Ala Ile
        195                 200                 205
Ile Ala Arg Glu Gly Asp Cys Ala Pro Glu Glu Lys Ile Trp Glu Glu
    210                 215                 220
Leu Ser Val Leu Glu Val Phe Glu Gly Arg Glu Asp Ser Ile Leu Gly
225                 230                 235                 240
Asp Pro Lys Lys Leu Leu Thr Gln His Phe Val Gln Glu Asn Tyr Leu
                245                 250                 255
Glu Tyr Arg Gln Val Pro Gly Ser Asp Pro Ala Cys Tyr Glu Phe Leu
            260                 265                 270
Trp Gly Pro Arg Ala Leu Val Glu Thr Ser Tyr Val Lys Val Leu His
        275                 280                 285
His Met Val Lys Ile Ser Gly Gly Pro His Ile Ser Tyr Pro Pro Leu
    290                 295                 300
His Glu Trp Val Leu Arg Glu Gly Glu Glu
305                 310
```

<210> 74
<211> 180
<212> PRT
<213> Homo sapiens

<400> 74

```
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro
    50                  55                  60
His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala
65                  70                  75                  80
Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe
                85                  90                  95
Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp
            100                 105                 110
Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val
```

```
        115                 120                 125
Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln
    130                 135                 140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145                 150                 155                 160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
                165                 170                 175
Gly Gln Arg Arg
            180
```

<210> 75
<211> 180
<212> PRT
<213> Homo sapiens

<400> 75

```
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50                  55                  60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65                  70                  75                  80
Arg Arg Pro Asp Ser Arg Leu Leu Glu Leu His Ile Thr Met Pro Phe
                85                  90                  95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
            100                 105                 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
        115                 120                 125
Ser Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln
    130                 135                 140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145                 150                 155                 160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Ala Pro Ser
                165                 170                 175
Gly Gln Arg Arg
            180
```

<210> 76
<211> 210
<212> PRT
<213> Homo sapiens

<400> 76

```
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50                  55                  60
```

```
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65                  70                  75                  80
Arg Arg Pro Asp Ser Arg Leu Leu Glu Leu His Ile Thr Met Pro Phe
                85                  90                  95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
            100                 105                 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
        115                 120                 125
Ser Gly Asn Leu Leu Phe Met Ser Val Trp Asp Gln Asp Arg Glu Gly
    130                 135                 140
Ala Gly Arg Met Arg Val Val Gly Trp Gly Leu Gly Ser Ala Ser Pro
145                 150                 155                 160
Glu Gly Gln Lys Ala Arg Asp Leu Arg Thr Pro Lys His Lys Val Ser
                165                 170                 175
Glu Gln Arg Pro Gly Thr Pro Gly Pro Pro Pro Pro Glu Gly Ala Gln
            180                 185                 190
Gly Asp Gly Cys Arg Gly Val Ala Phe Asn Val Met Phe Ser Ala Pro
        195                 200                 205
His Ile
    210
```

<210> 77
<211> 509
<212> PRT
<213> Homo sapiens

<400> 77

```
Met Glu Arg Arg Arg Leu Trp Gly Ser Ile Gln Ser Arg Tyr Ile Ser
 1               5                  10                  15
Met Ser Val Trp Thr Ser Pro Arg Arg Leu Val Glu Leu Ala Gly Gln
            20                  25                  30
Ser Leu Leu Lys Asp Glu Ala Leu Ala Ile Ala Ala Leu Glu Leu Leu
        35                  40                  45
Pro Arg Glu Leu Phe Pro Pro Leu Phe Met Ala Ala Phe Asp Gly Arg
    50                  55                  60
His Ser Gln Thr Leu Lys Ala Met Val Gln Ala Trp Pro Phe Thr Cys
65                  70                  75                  80
Leu Pro Leu Gly Val Leu Met Lys Gly Gln His Leu His Leu Glu Thr
                85                  90                  95
Phe Lys Ala Val Leu Asp Gly Leu Asp Val Leu Leu Ala Gln Glu Val
            100                 105                 110
Arg Pro Arg Arg Trp Lys Leu Gln Val Leu Asp Leu Arg Lys Asn Ser
        115                 120                 125
His Gln Asp Phe Trp Thr Val Trp Ser Gly Asn Arg Ala Ser Leu Tyr
    130                 135                 140
Ser Phe Pro Glu Pro Glu Ala Ala Gln Pro Met Thr Lys Lys Arg Lys
145                 150                 155                 160
Val Asp Gly Leu Ser Thr Glu Ala Glu Gln Pro Phe Ile Pro Val Glu
                165                 170                 175
Val Leu Val Asp Leu Phe Leu Lys Glu Gly Ala Cys Asp Glu Leu Phe
            180                 185                 190
Ser Tyr Leu Ile Glu Lys Val Lys Arg Lys Lys Asn Val Leu Arg Leu
        195                 200                 205
Cys Cys Lys Lys Leu Lys Ile Phe Ala Met Pro Met Gln Asp Ile Lys
    210                 215                 220
Met Ile Leu Lys Met Val Gln Leu Asp Ser Ile Glu Asp Leu Glu Val
```

225 230 235 240
Thr Cys Thr Trp Lys Leu Pro Thr Leu Ala Lys Phe Ser Pro Tyr Leu
245 250 255
Gly Gln Met Ile Asn Leu Arg Arg Leu Leu Leu Ser His Ile His Ala
260 265 270
Ser Ser Tyr Ile Ser Pro Glu Lys Glu Glu Gln Tyr Ile Ala Gln Phe
275 280 285
Thr Ser Gln Phe Leu Ser Leu Gln Cys Leu Gln Ala Leu Tyr Val Asp
290 295 300
Ser Leu Phe Phe Leu Arg Gly Arg Leu Asp Gln Leu Leu Arg His Val
305 310 315 320
Met Asn Pro Leu Glu Thr Leu Ser Ile Thr Asn Cys Arg Leu Ser Glu
325 330 335
Gly Asp Val Met His Leu Ser Gln Ser Pro Ser Val Ser Gln Leu Ser
340 345 350
Val Leu Ser Leu Ser Gly Val Met Leu Thr Asp Val Ser Pro Glu Pro
355 360 365
Leu Gln Ala Leu Leu Glu Arg Ala Ser Ala Thr Leu Gln Asp Leu Val
370 375 380
Phe Asp Glu Cys Gly Ile Thr Asp Asp Gln Leu Leu Ala Leu Leu Pro
385 390 395 400
Ser Leu Ser His Cys Ser Gln Leu Thr Thr Leu Ser Phe Tyr Gly Asn
405 410 415
Ser Ile Ser Ile Ser Ala Leu Gln Ser Leu Leu Gln His Leu Ile Gly
420 425 430
Leu Ser Asn Leu Thr His Val Leu Tyr Pro Val Pro Leu Glu Ser Tyr
435 440 445
Glu Asp Ile His Gly Thr Leu His Leu Glu Arg Leu Ala Tyr Leu His
450 455 460
Ala Arg Leu Arg Glu Leu Leu Cys Glu Leu Gly Arg Pro Ser Met Val
465 470 475 480
Trp Leu Ser Ala Asn Pro Cys Pro His Cys Gly Asp Arg Thr Phe Tyr
485 490 495
Asp Pro Glu Pro Ile Leu Cys Pro Cys Phe Met Pro Asn
500 505

<210> 78
<211> 261
<212> PRT
<213> Homo sapiens

<400> 78
Met Trp Val Pro Val Val Phe Leu Thr Leu Ser Val Thr Trp Ile Gly
1 5 10 15
Ala Ala Pro Leu Ile Leu Ser Arg Ile Val Gly Gly Trp Glu Cys Glu
20 25 30
Lys His Ser Gln Pro Trp Gln Val Leu Val Ala Ser Arg Gly Arg Ala
35 40 45
Val Cys Gly Gly Val Leu Val His Pro Gln Trp Val Leu Thr Ala Ala
50 55 60
His Cys Ile Arg Asn Lys Ser Val Ile Leu Leu Gly Arg His Ser Leu
65 70 75 80
Phe His Pro Glu Asp Thr Gly Gln Val Phe Gln Val Ser His Ser Phe
85 90 95
Pro His Pro Leu Tyr Asp Met Ser Leu Leu Lys Asn Arg Phe Leu Arg
100 105 110

```
Pro Gly Asp Asp Ser Ser His Asp Leu Met Leu Leu Arg Leu Ser Glu
        115                 120                 125
Pro Ala Glu Leu Thr Asp Ala Val Lys Val Met Asp Leu Pro Thr Gln
    130                 135                 140
Glu Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly Ser Ile
145                 150                 155                 160
Glu Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu Gln Cys Val Asp Leu
                165                 170                 175
His Val Ile Ser Asn Asp Val Cys Ala Gln Val His Pro Gln Lys Val
            180                 185                 190
Thr Lys Phe Met Leu Cys Ala Gly Arg Trp Thr Gly Gly Lys Ser Thr
        195                 200                 205
Cys Ser Gly Asp Ser Gly Gly Pro Leu Val Cys Asn Gly Val Leu Gln
    210                 215                 220
Gly Ile Thr Ser Trp Gly Ser Glu Pro Cys Ala Leu Pro Glu Arg Pro
225                 230                 235                 240
Ser Leu Tyr Thr Lys Val Val His Tyr Arg Lys Trp Ile Lys Asp Thr
                245                 250                 255
Ile Val Ala Asn Pro
            260
```

<210> 79
<211> 123
<212> PRT
<213> Homo sapiens

<400> 79

```
Met Lys Ala Val Leu Leu Ala Leu Leu Met Ala Gly Leu Ala Leu Gln
 1               5                  10                  15
Pro Gly Thr Ala Leu Leu Cys Tyr Ser Cys Lys Ala Gln Val Ser Asn
            20                  25                  30
Glu Asp Cys Leu Gln Val Glu Asn Cys Thr Gln Leu Gly Glu Gln Cys
        35                  40                  45
Trp Thr Ala Arg Ile Arg Ala Val Gly Leu Leu Thr Val Ile Ser Lys
    50                  55                  60
Gly Cys Ser Leu Asn Cys Val Asp Asp Ser Gln Asp Tyr Tyr Val Gly
65                  70                  75                  80
Lys Lys Asn Ile Thr Cys Cys Asp Thr Asp Leu Cys Asn Ala Ser Gly
                85                  90                  95
Ala His Ala Leu Gln Pro Ala Ala Ala Ile Leu Ala Leu Leu Pro Ala
            100                 105                 110
Leu Gly Leu Leu Leu Trp Gly Pro Gly Gln Leu
        115                 120
```

<210> 80
<211> 2817
<212> DNA
<213> Homo sapiens

<400> 80

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gctgtagagc ctaggacctg cagtcatata attaaggtgg tgagaagtcc tgtaagatgt 4140
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gtgc 4204

<210> 84
<211> 752
<212> DNA
<213> Homo sapiens

<400> 84
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ttcctgatgg cccaggggggc aatgctggcg gcccaggaga ggcgggtgcc acgggcggca 180
gaggtccccg gggcgcaggg gcagcaaggg cctcggggcc gggaggaggc gccccgcggg 240
gtccgcatgg cggcgcggct tcagggctga atggatgctg cagatgcggg gccaggggggc 300
cggagagccg cctgcttgag ttctacctcg ccatgccttt cgcgacaccc atggaagcag 360
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tgaaggagtt cactgtgtcc ggcaacatac tgactatccg actgactgct gcagaccacc 480
gccaactgca gctctccatc agctcctgtc tccagcagct ttccctgttg atgtggatca 540
cgcagtgctt tctgcccgtg tttttggctc agcctccctc agggcagagg cgctaagccc 600
agcctggcgc cccttcctag gtcatgcctc ctcccctagg gaatggtccc agcacgagtg 660
gccagttcat tgtgggggcc tgattgtttg tcgctggagg aggacggctt acatgtttgt 720
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<210> 85
<211> 2148
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(2)
<223> n = A,T,C or G

<400> 85
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gagacctaga aatccaagcg ttggaggtcc tgaggccagc ctaagtcgct tcaaaatgga 240
acgaaggcgt ttgtggggtt ccattcagag ccgatacatc agcatgagtg tgtggacaag 300
cccacggaga cttgtggagc tggcagggca gagcctgctg aaggatgagg ccctggccat 360
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cgggagacac agccagaccc tgaaggcaat ggtgcaggcc tggcccttca cctgcctccc 480
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gtgatctttg gggagataca tcttatagag ttagaaatag aatctgaatt tctaaaggga 2040
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<210> 86
<211> 1466
<212> DNA
<213> Homo sapiens

<400> 86
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gggaggctgg gagtgcgaga agcattccca accctggcag gtgcttgtgg cctctcgtgg 180
cagggcagtc tgcggcggtg ttctggtgca cccccagtgg gtcctcacag ctgcccactg 240
catcaggaac aaaagcgtga tcttgctggg tcggcacagc ctgtttcatc ctgaagacac 300
aggccaggta tttcaggtca gccacagctt cccacacccg ctctacgata tgagcctcct 360
gaagaatcga ttcctcaggc caggtgatga ctccagccac gacctcatgc tgctccgcct 420
gtcagagcct gccgagctca cggatgctgt gaaggtcatg gacctgccca cccaggagcc 480
agcactgggg accacctgct acgcctcagg ctggggcagc attgaaccag aggagttctt 540
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agttcaccct cagaaggtga ccaagttcat gctgtgtgct ggacgctgga caggggcaa 660
aagcacctgc tcgggtgatt ctgggggccc acttgtctgt aatggtgtgc ttcaaggtat 720
cacgtcatgg ggcagtgaac catgtgccct gcccgaaagg ccttccctgt acaccaaggt 780
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tgggatgggg atgaagtaag gagagggact ggacccctg gaagctgatt cactatgggg 1380
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cagaaataaa gagctgttat actgtg 1466

<210> 87
<211> 990
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)...(990)
<223> n = A,T,C or G

<400> 87
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gcctgcaggt ggagaactgc acccagctgg gggagcagtg ctggaccgcg cgcatccgcg 180
cagttggcct cctgaccgtc atcagcaaag gctgcagctt gaactgcgtg gatgactcac 240
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gcggggccca tgccctgcag ccggctgccg ccatccttgc gctgctccct gcactcggcc 360
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cctggttcct gaggcacatc ctaacgcaag tttgaccatg tatgtttgca ccccttttcc 540
ccnaaccctg accttcccat gggccttttc caggattccn accnggcaga tcagttttag 600
tganacanat ccgcntgcag atggcccctc caaccntttn tgttgntgtt tccatggccc 660
agcattttcc acccttaacc ctgtgttcag gcacttnttc ccccaggaag ccttccctgc 720
ccaccccatt tatgaattga gccaggtttg gtccgtggtg tcccccgcac ccagcagggg 780
acaggcaatc aggagggccc agtaaaggct gagatgaagt ggactgagta gaactggagg 840
acaagagttg acgtgagttc ctgggagttt ccagagatgg ggcctggagg cctggaggaa 900
ggggccaggc ctcacatttg tggggntccc gaatggcagc ctgagcacag cgtaggccct 960
taataaacac ctgttggata agccaaaaaa 990

<210> 88
<211> 702
<212> PRT
<213> Homo sapiens

<400> 88
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Arg Leu Leu Leu Thr Ala Ser Leu Leu Thr Phe Trp Asn Pro Pro Thr
            20   25   30
Thr Ala Lys Leu Thr Ile Glu Ser Thr Pro Phe Asn Val Ala Glu Gly
        35   40   45
Lys Glu Val Leu Leu Leu Val His Asn Leu Pro Gln His Leu Phe Gly
    50   55   60
Tyr Ser Trp Tyr Lys Gly Glu Arg Val Asp Gly Asn Arg Gln Ile Ile
65   70   75   80
Gly Tyr Val Ile Gly Thr Gln Gln Ala Thr Pro Gly Pro Ala Tyr Ser
                85   90   95

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Gly Arg Glu Ile Ile Tyr Pro Asn Ala Ser Leu Leu Ile Gln Asn Ile
            100                 105                 110
Ile Gln Asn Asp Thr Gly Phe Tyr Thr Leu His Val Ile Lys Ser Asp
        115                 120                 125
Leu Val Asn Glu Glu Ala Thr Gly Gln Phe Arg Val Tyr Pro Glu Leu
    130                 135                 140
Pro Lys Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro Val Glu Asp Lys
145                 150                 155                 160
Asp Ala Val Ala Phe Thr Cys Glu Pro Glu Thr Gln Asp Ala Thr Tyr
                165                 170                 175
Leu Trp Trp Val Asn Asn Gln Ser Leu Pro Val Ser Pro Arg Leu Gln
            180                 185                 190
Leu Ser Asn Gly Asn Arg Thr Leu Thr Leu Phe Asn Val Thr Arg Asn
        195                 200                 205
Asp Thr Ala Ser Tyr Lys Cys Glu Thr Gln Asn Pro Val Ser Ala Arg
    210                 215                 220
Arg Ser Asp Ser Val Ile Leu Asn Val Leu Tyr Gly Pro Asp Ala Pro
225                 230                 235                 240
Thr Ile Ser Pro Leu Asn Thr Ser Tyr Arg Ser Gly Glu Asn Leu Asn
                245                 250                 255
Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Phe
            260                 265                 270
Val Asn Gly Thr Phe Gln Gln Ser Thr Gln Glu Leu Phe Ile Pro Asn
        275                 280                 285
Ile Thr Val Asn Asn Ser Gly Ser Tyr Thr Cys Gln Ala His Asn Ser
    290                 295                 300
Asp Thr Gly Leu Asn Arg Thr Thr Val Thr Thr Ile Thr Val Tyr Ala
305                 310                 315                 320
Glu Pro Pro Lys Pro Phe Ile Thr Ser Asn Asn Ser Asn Pro Val Glu
                325                 330                 335
Asp Glu Asp Ala Val Ala Leu Thr Cys Glu Pro Glu Ile Gln Asn Thr
            340                 345                 350
Thr Tyr Leu Trp Trp Val Asn Asn Gln Ser Leu Pro Val Ser Pro Arg
        355                 360                 365
Leu Gln Leu Ser Asn Asp Asn Arg Thr Leu Thr Leu Leu Ser Val Thr
    370                 375                 380
Arg Asn Asp Val Gly Pro Tyr Glu Cys Gly Ile Gln Asn Glu Leu Ser
385                 390                 395                 400
Val Asp His Ser Asp Pro Val Ile Leu Asn Val Leu Tyr Gly Pro Asp
                405                 410                 415
Asp Pro Thr Ile Ser Pro Ser Tyr Thr Tyr Tyr Arg Pro Gly Val Asn
            420                 425                 430
Leu Ser Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser
        435                 440                 445
Trp Leu Ile Asp Gly Asn Ile Gln Gln His Thr Gln Glu Leu Phe Ile
    450                 455                 460
Ser Asn Ile Thr Glu Lys Asn Ser Gly Leu Tyr Thr Cys Gln Ala Asn
465                 470                 475                 480
Asn Ser Ala Ser Gly His Ser Arg Thr Thr Val Lys Thr Ile Thr Val
                485                 490                 495
Ser Ala Glu Leu Pro Lys Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro
            500                 505                 510
Val Glu Asp Lys Asp Ala Val Ala Phe Thr Cys Glu Pro Glu Ala Gln
        515                 520                 525
Asn Thr Thr Tyr Leu Trp Trp Val Asn Gly Gln Ser Leu Pro Val Ser
    530                 535                 540
Pro Arg Leu Gln Leu Ser Asn Gly Asn Arg Thr Leu Thr Leu Phe Asn
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545                 550                 555                 560
Val Thr Arg Asn Asp Ala Arg Ala Tyr Val Cys Gly Ile Gln Asn Ser
                565                 570                 575
Val Ser Ala Asn Arg Ser Asp Pro Val Thr Leu Asp Val Leu Tyr Gly
            580                 585                 590
Pro Asp Thr Pro Ile Ile Ser Pro Pro Asp Ser Ser Tyr Leu Ser Gly
        595                 600                 605
Ala Asn Leu Asn Leu Ser Cys His Ser Ala Ser Asn Pro Ser Pro Gln
    610                 615                 620
Tyr Ser Trp Arg Ile Asn Gly Ile Pro Gln Gln His Thr Gln Val Leu
625                 630                 635                 640
Phe Ile Ala Lys Ile Thr Pro Asn Asn Asn Gly Thr Tyr Ala Cys Phe
                645                 650                 655
Val Ser Asn Leu Ala Thr Gly Arg Asn Asn Ser Ile Val Lys Ser Ile
            660                 665                 670
Thr Val Ser Ala Ser Gly Thr Ser Pro Gly Leu Ser Ala Gly Ala Thr
        675                 680                 685
Val Gly Ile Met Ile Gly Val Leu Val Gly Val Ala Leu Ile
    690                 695                 700
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<210> 89
<211> 2974
<212> DNA
<213> Homo sapiens

<400> 89

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tcacttctaa ccttctggaa cccgcccacc actgccaagc tcactattga atccacgccg 240
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cacgtcataa agtcagatct tgtgaatgaa gaagcaactg gccagttccg ggtatacccg 540
gagctgccca agccctccat ctccagcaac aactccaaac ccgtggagga caaggatgct 600
gtggccttca cctgtgaacc tgagactcag gacgcaacct acctgtggtg ggtaaacaat 660
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<210> 90
<211> 1255
<212> PRT
<213> Homo sapiens

<400> 90
Met Glu Leu Ala Ala Leu Cys Arg Trp Gly Leu Leu Leu Ala Leu Leu
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Pro Pro Gly Ala Ala Ser Thr Gln Val Cys Thr Gly Thr Asp Met Lys
            20   25   30
Leu Arg Leu Pro Ala Ser Pro Glu Thr His Leu Asp Met Leu Arg His
        35   40   45
Leu Tyr Gln Gly Cys Gln Val Val Gln Gly Asn Leu Glu Leu Thr Tyr
    50   55   60
Leu Pro Thr Asn Ala Ser Leu Ser Phe Leu Gln Asp Ile Gln Glu Val
65   70   75   80
Gln Gly Tyr Val Leu Ile Ala His Asn Gln Val Arg Gln Val Pro Leu
                85   90   95
Gln Arg Leu Arg Ile Val Arg Gly Thr Gln Leu Phe Glu Asp Asn Tyr
            100   105   110
Ala Leu Ala Val Leu Asp Asn Gly Asp Pro Leu Asn Asn Thr Thr Pro
        115   120   125
Val Thr Gly Ala Ser Pro Gly Gly Leu Arg Glu Leu Gln Leu Arg Ser
    130   135   140
Leu Thr Glu Ile Leu Lys Gly Gly Val Leu Ile Gln Arg Asn Pro Gln
145   150   155   160
Leu Cys Tyr Gln Asp Thr Ile Leu Trp Lys Asp Ile Phe His Lys Asn
                165   170   175
Asn Gln Leu Ala Leu Thr Leu Ile Asp Thr Asn Arg Ser Arg Ala Cys
            180   185   190
His Pro Cys Ser Pro Met Cys Lys Gly Ser Arg Cys Trp Gly Glu Ser
        195   200   205
Ser Glu Asp Cys Gln Ser Leu Thr Arg Thr Val Cys Ala Gly Gly Cys
    210   215   220
Ala Arg Cys Lys Gly Pro Leu Pro Thr Asp Cys Cys His Glu Gln Cys
225   230   235   240

Ala Ala Gly Cys Thr Gly Pro Lys His Ser Asp Cys Leu Ala Cys Leu
245 250 255
His Phe Asn His Ser Gly Ile Cys Glu Leu His Cys Pro Ala Leu Val
260 265 270
Thr Tyr Asn Thr Asp Thr Phe Glu Ser Met Pro Asn Pro Glu Gly Arg
275 280 285
Tyr Thr Phe Gly Ala Ser Cys Val Thr Ala Cys Pro Tyr Asn Tyr Leu
290 295 300
Ser Thr Asp Val Gly Ser Cys Thr Leu Val Cys Pro Leu His Asn Gln
305 310 315 320
Glu Val Thr Ala Glu Asp Gly Thr Gln Arg Cys Glu Lys Cys Ser Lys
325 330 335
Pro Cys Ala Arg Val Cys Tyr Gly Leu Gly Met Glu His Leu Arg Glu
340 345 350
Val Arg Ala Val Thr Ser Ala Asn Ile Gln Glu Phe Ala Gly Cys Lys
355 360 365
Lys Ile Phe Gly Ser Leu Ala Phe Leu Pro Glu Ser Phe Asp Gly Asp
370 375 380
Pro Ala Ser Asn Thr Ala Pro Leu Gln Pro Glu Gln Leu Gln Val Phe
385 390 395 400
Glu Thr Leu Glu Glu Ile Thr Gly Tyr Leu Tyr Ile Ser Ala Trp Pro
405 410 415
Asp Ser Leu Pro Asp Leu Ser Val Phe Gln Asn Leu Gln Val Ile Arg
420 425 430
Gly Arg Ile Leu His Asn Gly Ala Tyr Ser Leu Thr Leu Gln Gly Leu
435 440 445
Gly Ile Ser Trp Leu Gly Leu Arg Ser Leu Arg Glu Leu Gly Ser Gly
450 455 460
Leu Ala Leu Ile His His Asn Thr His Leu Cys Phe Val His Thr Val
465 470 475 480
Pro Trp Asp Gln Leu Phe Arg Asn Pro His Gln Ala Leu Leu His Thr
485 490 495
Ala Asn Arg Pro Glu Asp Glu Cys Val Gly Glu Gly Leu Ala Cys His
500 505 510
Gln Leu Cys Ala Arg Gly His Cys Trp Gly Pro Gly Pro Thr Gln Cys
515 520 525
Val Asn Cys Ser Gln Phe Leu Arg Gly Gln Glu Cys Val Glu Glu Cys
530 535 540
Arg Val Leu Gln Gly Leu Pro Arg Glu Tyr Val Asn Ala Arg His Cys
545 550 555 560
Leu Pro Cys His Pro Glu Cys Gln Pro Gln Asn Gly Ser Val Thr Cys
565 570 575
Phe Gly Pro Glu Ala Asp Gln Cys Val Ala Cys Ala His Tyr Lys Asp
580 585 590
Pro Pro Phe Cys Val Ala Arg Cys Pro Ser Gly Val Lys Pro Asp Leu
595 600 605
Ser Tyr Met Pro Ile Trp Lys Phe Pro Asp Glu Glu Gly Ala Cys Gln
610 615 620
Pro Cys Pro Ile Asn Cys Thr His Ser Cys Val Asp Leu Asp Asp Lys
625 630 635 640
Gly Cys Pro Ala Glu Gln Arg Ala Ser Pro Leu Thr Ser Ile Val Ser
645 650 655
Ala Val Val Gly Ile Leu Leu Val Val Val Leu Gly Val Val Phe Gly
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Arg Leu Leu Gln Glu Thr Glu Leu Val Glu Pro Leu Thr Pro Ser Gly

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Arg Lys Val Lys Val Leu Gly Ser Gly Ala Phe Gly Thr Val Tyr Lys
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Gly Ile Trp Ile Pro Asp Gly Glu Asn Val Lys Ile Pro Val Ala Ile
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Lys Val Leu Arg Glu Asn Thr Ser Pro Lys Ala Asn Lys Glu Ile Leu
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Asp Glu Ala Tyr Val Met Ala Gly Val Gly Ser Pro Tyr Val Ser Arg
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Met Pro Tyr Gly Cys Leu Leu Asp His Val Arg Glu Asn Arg Gly Arg
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Arg Glu Ile Pro Asp Leu Leu Glu Lys Gly Glu Arg Leu Pro Gln Pro
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Pro Ile Cys Thr Ile Asp Val Tyr Met Ile Met Val Lys Cys Trp Met
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Ser Arg Met Ala Arg Asp Pro Gln Arg Phe Val Val Ile Gln Asn Glu
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Asp Leu Gly Pro Ala Ser Pro Leu Asp Ser Thr Phe Tyr Arg Ser Leu
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Asp Leu Gly Met Gly Ala Ala Lys Gly Leu Gln Ser Leu Pro Thr His
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Gly Gly Ala Ala Pro Gln Pro His Pro Pro Pro Ala Phe Ser Pro Ala
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Phe Asp Asn Leu Tyr Tyr Trp Asp Gln Asp Pro Pro Glu Arg Gly Ala
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Thr Phe Phe Lys Ser Phe Asn Lys Cys Thr Glu Asp Asp Leu Glu Phe
        35   40   45
Pro Phe Ala Lys Thr Asn Leu Ser Lys Asn Gly Glu Asn Ile Asp Ser
    50   55   60
Asp Pro Ala Leu Gln Lys Val Asn Phe Leu Pro Val Leu Glu Gln Val

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Gly Asn Ser Asp Cys His Tyr Gln Glu Gly Leu Lys Asp Ser Asp Leu
85 90 95
Glu Asn Ser Glu Gly Leu Ser Arg Val Phe Ser Lys Leu Tyr Lys Glu
100 105 110
Ala Glu Lys Ile Lys Lys Trp Lys Val Ser Thr Glu Ala Glu Leu Arg
115 120 125
Gln Lys Glu Ser Lys Leu Gln Glu Asn Arg Lys Ile Ile Glu Ala Gln
130 135 140
Arg Lys Ala Ile Gln Glu Leu Gln Phe Gly Asn Glu Lys Val Ser Leu
145 150 155 160
Lys Leu Glu Glu Gly Ile Gln Glu Asn Lys Asp Leu Ile Lys Glu Asn
165 170 175
Asn Ala Thr Arg His Leu Cys Asn Leu Leu Lys Glu Thr Cys Ala Arg
180 185 190
Ser Ala Glu Lys Thr Lys Lys Tyr Glu Tyr Glu Arg Glu Glu Thr Arg
195 200 205
Gln Val Tyr Met Asp Leu Asn Asn Asn Ile Glu Lys Met Ile Thr Ala
210 215 220
His Gly Glu Leu Arg Val Gln Ala Glu Asn Ser Arg Leu Glu Met His
225 230 235 240
Phe Lys Leu Lys Glu Asp Tyr Glu Lys Ile Gln His Leu Glu Gln Glu
245 250 255
Tyr Lys Lys Glu Ile Asn Asp Lys Glu Lys Gln Val Ser Leu Leu Leu
260 265 270
Ile Gln Ile Thr Glu Lys Glu Asn Lys Met Lys Asp Leu Thr Phe Leu
275 280 285
Leu Glu Glu Ser Arg Asp Lys Val Asn Gln Leu Glu Glu Lys Thr Lys
290 295 300
Leu Gln Ser Glu Asn Leu Lys Gln Ser Ile Glu Lys Gln His His Leu
305 310 315 320
Thr Lys Glu Leu Glu Asp Ile Lys Val Ser Leu Gln Arg Ser Val Ser
325 330 335
Thr Gln Lys Ala Leu Glu Glu Asp Leu Gln Ile Ala Thr Lys Thr Ile
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Cys Gln Leu Thr Glu Glu Lys Glu Thr Gln Met Glu Glu Ser Asn Lys
355 360 365
Ala Arg Ala Ala His Ser Phe Val Val Thr Glu Phe Glu Thr Thr Val
370 375 380
Cys Ser Leu Glu Glu Leu Leu Arg Thr Glu Gln Gln Arg Leu Glu Lys
385 390 395 400
Asn Glu Asp Gln Leu Lys Ile Leu Thr Met Glu Leu Gln Lys Lys Ser
405 410 415
Ser Glu Leu Glu Glu Met Thr Lys Leu Thr Asn Asn Lys Glu Val Glu
420 425 430
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435 440 445
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450 455 460
Gln Glu Leu Ile Gly Leu Leu Gln Ala Arg Glu Lys Glu Val His Asp
465 470 475 480
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485 490 495
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500 505 510
Asn Thr Glu Leu Thr Ser His Cys Asn Lys Leu Ser Leu Glu Asn Lys
515 520 525

Glu Leu Thr Gln Glu Thr Ser Asp Met Thr Leu Glu Leu Lys Asn Gln
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Gln Glu Asp Ile Asn Asn Asn Lys Lys Gln Glu Glu Arg Met Leu Lys
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Glu Tyr Val Arg Glu Glu Leu Lys Gln Lys Arg Asp Glu Val Lys Cys
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Lys Leu Asp Lys Ser Glu Glu Asn Cys Asn Asn Leu Arg Lys Gln Val
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Phe Gly Glu Ile Thr Asp Thr Tyr Gln Lys Glu Ile Glu Asp Lys Lys
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675 680 685
Ala Asp Glu Ala Val Lys Leu Gln Lys Glu Ile Asp Lys Arg Cys Gln
690 695 700
His Lys Ile Ala Glu Met Val Ala Leu Met Glu Lys His Lys His Gln
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Tyr Asp Lys Ile Ile Glu Glu Arg Asp Ser Glu Leu Gly Leu Tyr Lys
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885 890 895
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915 920 925
Pro Lys Lys Ala Pro Ser Ser Leu Thr Thr Pro Gly Pro Thr Leu Lys
930 935 940
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Val Tyr Met Lys Leu Asn Tyr Glu Val Met Thr Lys Leu Gly Phe Lys
50 55 60
Val Thr Leu Pro Pro Phe Met Arg Ser Lys Arg Ala Ala Asp Phe His
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Pro Gln Met Thr Phe Gly Ser Leu Gln Arg Ile Phe Pro Lys Ile Met
100 105 110
Pro Lys Lys Pro Ala Glu Glu Glu Asn Gly Leu Lys Glu Val Pro Glu
115 120 125
Ala Ser Gly Pro Gln Asn Asp Gly Lys Gln Leu Cys Pro Pro Gly Asn
130 135 140
Pro Ser Thr Leu Glu Lys Ile Asn Lys Thr Ser Gly Pro Lys Arg Gly
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<212> DNA
<213> Homo sapiens

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aaatcctcgg agaaaatcgt ctatgtgtat atgaagctaa actatgaggt catgactaaa 180
ctaggtttca aggtcaccct cccacctttc atgcgtagta aacgggctgc agacttccac 240
gggaatgatt ttggtaacga tcgaaaccac aggaatcagg ttgaacgtcc tcagatgact 300
ttcggcagcc tccagagaat cttcccgaag atcatgccca agaagccagc agaggaagaa 360
aatggtttga aggaagtgcc agaggcatct ggcccacaaa atgatgggaa acagctgtgc 420
cccccgggaa atccaagtac cttggagaag attaacaaga catctggacc caaaaggggg 480
aaacatgcct ggacccacag actgcgtgag agaaagcagc tggtggttta tgaagagatc 540
agcgaccctg aggaagatga cgagtaactc ccctcg 576

<210> 96
<211> 94
<212> PRT
<213> Homo sapiens

<400> 96
Pro Ala Thr Gln Arg Gln Asp Pro Ala Ala Ala Gln Glu Gly Glu Asp
1 5 10 15
Glu Gly Ala Ser Ala Gly Gln Gly Pro Lys Pro Glu Ala Asp Ser Gln
20 25 30
Glu Gln Gly His Pro Gln Thr Gly Cys Glu Cys Glu Asp Gly Pro Asp
35 40 45
Gly Gln Glu Met Asp Pro Pro Asn Pro Glu Glu Val Lys Thr Pro Glu
50 55 60
Glu Glu Met Arg Ser His Tyr Val Ala Gln Thr Gly Ile Leu Trp Leu
65 70 75 80
Leu Met Asn Asn Cys Phe Leu Asn Leu Ser Pro Arg Lys Pro
85 90

<210> 97
<211> 646
<212> DNA
<213> Homo sapiens

<400> 97
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ggaagatcga cctatcggcc tagaccaaga cgctacgtag agcctcctga aatgattggg 120
cctatgcggc ccgagcagtt cagtgatgaa gtggaaccag caacacctga agaaggggaa 180
ccagcaactc aacgtcagga tcctgcagct gctcaggagg gagaggatga gggagcatct 240
gcaggtcaag ggccgaagcc tgaagctgat agccaggaac agggtcaccc acagactggg 300
tgtgagtgtg aagatggtcc tgatgggcag gagatggacc cgccaaatcc agaggaggtg 360
aaaacgcctg aagaagagat gaggtctcac tatgttgccc agactgggat tctctggctt 420
ttaatgaaca attgcttctt aaatctttcc ccacggaaac cttgagtgac tgaaatatca 480
aatggcgaga gaccgtttag ttcctatcat ctgtggcatg tgaagggcaa tcacagtgtt 540
aaaagaagac atgctgaaat gttgcaggct gctcctatgt tggaaaattc ttcattgaag 600
ttctcccaat aaagctttac agccttctgc aaagaaaaaa aaaaaa 646

<210> 98
<211> 98
<212> PRT
<213> Homo sapiens

<400> 98
His Cys Pro Thr Glu Asn Glu Pro Asp Leu Ala Gln Cys Phe Phe Cys
1 5 10 15
Phe Lys Glu Leu Glu Gly Trp Glu Pro Asp Asp Asp Pro Ile Glu Glu
20 25 30
His Lys Lys His Ser Ser Gly Cys Ala Phe Leu Ser Val Lys Lys Gln
35 40 45
Phe Glu Glu Leu Thr Leu Gly Glu Phe Leu Lys Leu Asp Arg Glu Arg
50 55 60
Ala Lys Asn Lys Ile Ala Lys Glu Thr Asn Asn Lys Lys Lys Glu Phe
65 70 75 80
Glu Glu Thr Ala Lys Lys Val Arg Arg Ala Ile Glu Gln Leu Ala Ala
85 90 95

Met Asp

<210> 99
<211> 1619
<212> DNA
<213> Homo sapiens

<400> 99
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ctggcccttc ttggagggct gcgcctgcac cccggagcgg atggccgagg ctggcttcat 180
ccactgcccc actgagaacg agccagactt ggcccagtgt ttcttctgct tcaaggagct 240
ggaaggctgg gagccagatg acgaccccat agaggaacat aaaaagcatt cgtccggttg 300
cgctttcctt tctgtcaaga agcagtttga agaattaacc cttggtgaat ttttgaaact 360
ggacagagaa agagccaaga acaaaattgc aaaggaaacc aacaataaga agaaagaatt 420
tgaggaaact gcgaagaaag tgcgccgtgc catcgagcag ctggctgcca tggattgagg 480
cctctggccg gagctgcctg gtcccagagt ggctgcacca cttccagggt ttattccctg 540
gtgccaccag ccttcctgtg ggccccttag caatgtctta ggaaaggaga tcaacatttt 600
caaattagat gtttcaactg tgctcctgtt ttgtcttgaa agtggcacca gaggtgcttc 660
tgcctgtgca gcgggtgctg ctggtaacag tggctgcttc tctctctctc tctcttttt 720
gggggctcat ttttgctgtt ttgattcccg ggcttaccag gtgagaagtg agggaggaag 780
aaggcagtgt ccctttgct agagctgaca gctttgttcg cgtgggcaga gccttccaca 840
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ggtgcctgtt gaatctgagc tgcaggttcc ttatctgtca cacctgtgcc tcctcagagg 960
acagtttttt tgttgttgtg ttttttgtt ttttttttt ggtagatgca tgacttgtgt 1020
gtgatgagag aatggagaca gagtccctgg ctcctctact gtttaacaac atggctttct 1080
tattttgttt gaattgttaa ttcacagaat agcacaaact acaattaaaa ctaagcacaa 1140
agccattcta agtcattggg gaaacggggt gaacttcagg tggatgagga gacagaatag 1200
agtgatagga agcgtctggc agatactcct tttgccactg ctgtgtgatt agacaggccc 1260
agtgagccgc ggggcacatg ctggccgctc ctccctcaga aaaaggcagt ggcctaaatc 1320
ctttttaaat gacttggctc gatgctgtgg gggactggct gggctgctgc aggccgtgtg 1380
tctgtcagcc caaccttcac atctgtcacg ttctccacac gggggagaga cgcagtccgc 1440
ccaggtcccc gctttctttg gaggcagcag ctcccgcagg gctgaagtct ggcgtaagat 1500
gatggatttg attcgccctc ctccctgtca tagagctgca gggtggattg ttacagcttc 1560
gctggaaacc tctggaggtc atctcggctg ttcctgagaa ataaaaagcc tgtcatttc 1619

<210> 100
<211> 74
<212> PRT
<213> Homo sapiens

<400> 100
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Ser Leu His Val Gly Thr Gln Cys Ala Leu Thr Arg Arg Cys Pro Gln
20 25 30
Glu Gly Phe Asp His Arg Asp Ser Lys Val Ser Leu Gln Glu Lys Asn
35 40 45
Cys Glu Pro Val Val Pro Asn Ala Pro Pro Ala Tyr Glu Lys Leu Ser
50 55 60
Ala Glu Gln Ser Pro Pro Pro Tyr Ser Pro
65 70

<210> 101
<211> 1524

<212> DNA
<213> Homo sapiens

<400> 101
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gagaagatgc tcacttcatc tatggttacc ccaagaaggg gcacggccac tcttacacca 120
cggctgaaga ggccgctggg atcggcatcc tgacagtgat cctgggagtc ttactgctca 180
tcggctgttg gtattgtaga agacgaaatg gatacagagc cttgatggat aaaagtcttc 240
atgttggcac tcaatgtgcc ttaacaagaa gatgcccaca agaagggttt gatcatcggg 300
acagcaaagt gtctcttcaa gagaaaaact gtgaacctgt ggttcccaat gctccacctg 360
cttatgagaa actctctgca gaacagtcac caccacctta ttcaccttaa gagccagcga 420
gacacctgag acatgctgaa attatttctc tcacactttt gcttgaattt aatacagaca 480
tctaatgttc tcctttggaa tggtgtagga aaaatgcaag ccatctctaa taataagtca 540
gtgttaaaat tttagtaggt ccgctagcag tactaatcat gtgaggaaat gatgagaaat 600
attaaattgg gaaaactcca tcaataaatg ttgcaatgca tgatactatc tgtgccagag 660
gtaatgttag taaatccatg gtgttatttt ctgagagaca gaattcaagt gggtattctg 720
gggccatcca atttctcttt acttgaaatt tggctaataa caaactagtc aggttttcga 780
accttgaccg acatgaactg tacacagaat tgttccagta ctatggagtg ctcacaaagg 840
atacttttac aggttaagac aaagggttga ctggcctatt tatctgatca agaacatgtc 900
agcaatgtct ctttgtgctc taaaattcta ttatactaca ataatatatt gtaaagatcc 960
tatagctctt ttttttgag atggagtttc gcttttgttg cccaggctgg agtgcaatgg 1020
cgcgatcttg gctcaccata acctccgcct cccaggttca agcaattctc ctgccttagc 1080
ctcctgagta gctgggatta caggcgtgcg ccactatgcc tgactaattt tgtagtttta 1140
gtagagacgg ggtttctcca tgttggtcag gctggtctca aactcctgac ctcaggtgat 1200
ctgcccgcct cagcctccca aagtgctgga attacaggcg tgagccacca cgcctggctg 1260
gatcctatat cttaggtaag acatataacg cagtctaatt acatttcact tcaaggctca 1320
atgctattct aactaatgac aagtattttc tactaaacca gaaattggta gaaggattta 1380
aataagtaaa agctactatg tactgcctta gtgctgatgc ctgtgtactg ccttaaatgt 1440
acctatggca atttagctct cttgggttcc caaatccctc tcacaagaat gtgcagaaga 1500
aatcataaag gatcagagat tctg 1524

<210> 102
<211> 43
<212> PRT
<213> Homo sapiens

<400> 102
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Ala Arg Leu Met Lys Glu Glu Ser Pro Val Val Ser Trp Arg Leu Glu
            20   25   30
Pro Glu Asp Gly Thr Ala Leu Cys Phe Ile Phe
        35   40

<210> 103
<211> 1004
<212> DNA
<213> Homo sapiens

<400> 103
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gtggtggcaa cagagatggc agcgcagctg gagtgttagg agggcggcct gagcggtagg 180
agtggggctg gagcagtaag atggcggcca gagcggtttt tctggcattg tctgcccagc 240
tgctccaagc caggctgatg aaggaggagt cccctgtggt gagctggagg ttggagcctg 300
aagacggcac agctctgtgc ttcatcttct gaggttgtgg cagccacggt gatggagacg 360

gcagctcaac aggagcaata ggaggagatg gagtttcact gtgtcagcca ggatggtctc 420
gatctcctga cctcgtgatc cgcccgcctt ggccttccaa agtgccgaga ttacagcgat 480
gtgcattttg taagcacttt ggagccacta tcaaatgctg tgaagagaaa tgtacccaga 540
tgtatcatta tccttgtgct gcaggagccg gctcctttca ggatttcagt cacatcttcc 600
tgctttgtcc agaacacatt gaccaagctc ctgaaagatg taagtttact acgcatagac 660
ttttaaactt caaccaatgt atttactgaa aataacaaat gttgtaaatt ccctgagtgt 720
tattctactt gtattaaaag gtaataatac ataatcatta aaatctgagg gatcattgcc 780
agagattgtt ggggagggaa atgttatcaa cggtttcatt gaaattaaat ccaaaaagtt 840
atttcctcag aaaaatcaaa taaagtttgc atgtttttta ttcttaaaac attttaaaaa 900
ccactgtaga atgatgtaaa tagggactgt gcagtatttc tgacatatac tataaaatta 960
ttaaaaagtc aatcagtatt caacatcttt tacactaaaa agcc 1004

<210> 104
<211> 9
<212> PRT
<213> Homo sapiens

<400> 104
Trp Val Leu Thr Ala Ala His Cys Ile
1 5

<210> 105
<211> 263
<212> PRT
<213> Homo sapiens

<400> 105
Pro Met Trp Phe Leu Val Leu Cys Leu Ala Leu Ser Leu Gly Gly Thr
1 5 10 15
Gly Ala Ala Pro Pro Ile Gln Ser Arg Ile Val Gly Gly Trp Glu Cys
20 25 30
Glu Gln His Ser Gln Pro Trp Gln Ala Ala Leu Tyr His Phe Ser Thr
35 40 45
Phe Gln Cys Gly Gly Ile Leu Val His Arg Gln Trp Val Leu Thr Ala
50 55 60
Ala His Cys Ile Ser Asp Asn Tyr Gln Leu Trp Leu Gly Arg His Asn
65 70 75 80
Leu Phe Asp Asp Glu Asn Thr Ala Gln Phe Val His Val Ser Glu Ser
85 90 95
Phe Pro His Pro Gly Phe Asn Met Ser Leu Leu Glu Asn His Thr Arg
100 105 110
Gln Ala Asp Glu Asp Tyr Ser His Asp Leu Met Leu Leu Arg Leu Thr
115 120 125
Glu Pro Ala Asp Thr Ile Thr Asp Ala Val Lys Val Val Glu Leu Pro
130 135 140
Thr Gln Glu Pro Glu Val Gly Ser Thr Cys Leu Ala Ser Gly Trp Gly
145 150 155 160
Ser Ile Glu Pro Glu Asn Phe Ser Phe Pro Asp Asp Leu Gln Cys Val
165 170 175
Asp Leu Lys Ile Leu Pro Asn Asp Glu Cys Glu Lys Ala His Val Gln
180 185 190
Lys Val Thr Asp Phe Met Leu Cys Val Gly His Leu Glu Gly Gly Lys
195 200 205
Asp Thr Cys Val Gly Asp Ser Gly Gly Pro Leu Met Cys Asp Gly Val
210 215 220
Leu Gln Gly Val Thr Ser Trp Gly Tyr Val Pro Cys Gly Thr Pro Asn

225 230 235 240
Lys Pro Ser Val Ala Val Arg Val Leu Ser Tyr Val Lys Trp Ile Glu
245 250 255
Asp Thr Ile Ala Glu Asn Ser
260

<210> 106
<211> 270
<212> PRT
<213> Homo sapiens

<400> 106
Pro Met Ile Arg Thr Leu Leu Leu Ser Thr Leu Val Ala Gly Ala Leu
1 5 10 15
Ser Cys Gly Asp Pro Thr Tyr Pro Pro Tyr Val Thr Arg Val Val Gly
20 25 30
Gly Glu Glu Ala Arg Pro Asn Ser Trp Pro Trp Gln Val Ser Leu Gln
35 40 45
Tyr Ser Ser Asn Gly Lys Trp Tyr His Thr Cys Gly Gly Ser Leu Ile
50 55 60
Ala Asn Ser Trp Val Leu Thr Ala Ala His Cys Ile Ser Ser Ser Arg
65 70 75 80
Thr Tyr Arg Val Gly Leu Gly Arg His Asn Leu Tyr Val Ala Glu Ser
85 90 95
Gly Ser Leu Ala Val Ser Val Ser Lys Ile Val Val His Lys Asp Trp
100 105 110
Asn Ser Asn Gln Ile Ser Lys Gly Asn Asp Ile Ala Leu Leu Lys Leu
115 120 125
Ala Asn Pro Val Ser Leu Thr Asp Lys Ile Gln Leu Ala Cys Leu Pro
130 135 140
Pro Ala Gly Thr Ile Leu Pro Asn Asn Tyr Pro Cys Tyr Val Thr Gly
145 150 155 160
Trp Gly Arg Leu Gln Thr Asn Gly Ala Val Pro Asp Val Leu Gln Gln
165 170 175
Gly Arg Leu Leu Val Val Asp Tyr Ala Thr Cys Ser Ser Ser Ala Trp
180 185 190
Trp Gly Ser Ser Val Lys Thr Ser Met Ile Cys Ala Gly Gly Asp Gly
195 200 205
Val Ile Ser Ser Cys Asn Gly Asp Ser Gly Gly Pro Leu Asn Cys Gln
210 215 220
Ala Ser Asp Gly Arg Trp Gln Val His Gly Ile Val Ser Phe Gly Ser
225 230 235 240
Arg Leu Gly Cys Asn Tyr Tyr His Lys Pro Ser Val Phe Thr Arg Val
245 250 255
Ser Asn Tyr Ile Asp Trp Ile Asn Ser Val Ile Ala Asn Asn
260 265 270

<210> 107
<211> 270
<212> PRT
<213> Homo sapiens

<400> 107
Pro Met Ile Arg Thr Leu Leu Leu Ser Thr Leu Val Ala Gly Ala Leu
1 5 10 15

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Ser Cys Gly Val Ser Thr Tyr Ala Pro Asp Met Ser Arg Met Leu Gly
            20                  25                  30
Gly Glu Glu Ala Arg Pro Asn Ser Trp Pro Trp Gln Val Ser Leu Gln
        35                  40                  45
Tyr Ser Ser Asn Gly Gln Trp Tyr His Thr Cys Gly Gly Ser Leu Ile
    50                  55                  60
Ala Asn Ser Trp Val Leu Thr Ala Ala His Cys Ile Ser Ser Ser Arg
65                  70                  75                  80
Ile Tyr Arg Val Met Leu Gly Gln His Asn Leu Tyr Val Ala Glu Ser
                85                  90                  95
Gly Ser Leu Ala Val Ser Val Ser Lys Ile Val Val His Lys Asp Trp
            100                 105                 110
Asn Ser Asn Gln Val Ser Lys Gly Asn Asp Ile Ala Leu Leu Lys Leu
        115                 120                 125
Ala Asn Pro Val Ser Leu Thr Asp Lys Ile Gln Leu Ala Cys Leu Pro
    130                 135                 140
Pro Ala Gly Thr Ile Leu Pro Asn Asn Tyr Pro Cys Tyr Val Thr Gly
145                 150                 155                 160
Trp Gly Arg Leu Gln Thr Asn Gly Ala Leu Pro Asp Asp Leu Lys Gln
                165                 170                 175
Gly Arg Leu Leu Val Val Asp Tyr Ala Thr Cys Ser Ser Ser Gly Trp
            180                 185                 190
Trp Gly Ser Thr Val Lys Thr Asn Met Ile Cys Ala Gly Gly Asp Gly
        195                 200                 205
Val Ile Cys Thr Cys Asn Gly Asp Ser Gly Gly Pro Leu Asn Cys Gln
    210                 215                 220
Ala Ser Asp Gly Arg Trp Glu Val His Gly Ile Gly Ser Leu Thr Ser
225                 230                 235                 240
Val Leu Gly Cys Asn Tyr Tyr Tyr Lys Pro Ser Ile Phe Thr Arg Val
                245                 250                 255
Ser Asn Tyr Asn Asp Trp Ile Asn Ser Val Ile Ala Asn Asn
            260                 265                 270
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<210> 108
<211> 9
<212> PRT
<213> Homo sapiens

<400> 108
Asn Ile Tyr Asp Leu Phe Val Trp Met
 1   5

<210> 109
<211> 10
<212> PRT
<213> Homo sapiens

<400> 109
Tyr Asp Leu Phe Val Trp Met His Tyr Tyr
 1   5   10

<210> 110
<211> 9
<212> PRT

<213> Homo sapiens

<400> 110
Asp Leu Phe Val Trp Met His Tyr Tyr
 1   5

<210> 111
<211> 9
<212> PRT
<213> Homo sapiens

<400> 111
Asp Ala Leu Leu Gly Gly Ser Glu Ile
 1   5

<210> 112
<211> 10
<212> PRT
<213> Homo sapiens

<400> 112
Gly Ser Glu Ile Trp Arg Asp Ile Asp Phe
 1   5   10

<210> 113
<211> 9
<212> PRT
<213> Homo sapiens

<400> 113
Ser Glu Ile Trp Arg Asp Ile Asp Phe
 1   5

<210> 114
<211> 9
<212> PRT
<213> Homo sapiens

<400> 114
Glu Ile Trp Arg Asp Ile Asp Phe Ala
 1   5

<210> 115
<211> 10
<212> PRT
<213> Homo sapiens

<400> 115
Leu Gln Glu Val Tyr Pro Glu Ala Asn Ala
 1   5   10

<210> 116
<211> 10
<212> PRT
<213> Homosapiens

<400> 116
Glu Val Tyr Pro Glu Ala Asn Ala Pro Ile
 1   5   10

<210> 117
<211> 9
<212> PRT
<213> Homosapiens

<400> 117
Val Tyr Pro Glu Ala Asn Ala Pro Ile
 1   5

<210> 118
<211> 8
<212> PRT
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<400> 118
Tyr Pro Glu Ala Asn Ala Pro Ile
 1   5

<210> 119
<211> 10
<212> PRT
<213> Homosapiens

<400> 119
Tyr Pro Glu Ala Asn Ala Pro Ile Gly His
 1   5   10

<210> 120
<211> 10
<212> PRT
<213> Homosapiens

<400> 120
Ala Pro Ile Gly His Asn Arg Glu Ser Tyr
 1   5   10

<210> 121
<211> 9
<212> PRT
<213> Homosapiens

<400> 121
Pro Ile Gly His Asn Arg Glu Ser Tyr

1 5

<210> 122
<211> 10
<212> PRT
<213> Homosapiens

<400> 122
Pro Ile Gly His Asn Arg Glu Ser Tyr Met
1 5 10

<210> 123
<211> 10
<212> PRT
<213> Homosapiens

<400> 123
Ala Pro Ile Gly His Asn Arg Glu Ser Tyr
1 5 10

<210> 124
<211> 9
<212> PRT
<213> Homosapiens

<400> 124
Pro Ile Gly His Asn Arg Glu Ser Tyr
1 5

<210> 125
<211> 8
<212> PRT
<213> Homosapiens

<400> 125
Glu Ser Tyr Met Val Pro Phe Ile
1 5

<210> 126
<211> 10
<212> PRT
<213> Homosapiens

<400> 126
Glu Ser Tyr Met Val Pro Phe Ile Pro Leu
1 5 10

<210> 127
<211> 9
<212> PRT
<213> Homosapiens

<400> 127
Ser Tyr Met Val Pro Phe Ile Pro Leu
1 5

<210> 128
<211> 10
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<400> 128
Ser Tyr Met Val Pro Phe Ile Pro Leu Tyr
1 5 10

<210> 129
<211> 9
<212> PRT
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<400> 129
Tyr Met Val Pro Phe Ile Pro Leu Tyr
1 5

<210> 130
<211> 9
<212> PRT
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<400> 130
Met Val Pro Phe Ile Pro Leu Tyr Arg
1 5

<210> 131
<211> 10
<212> PRT
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<400> 131
Met Val Pro Phe Ile Pro Leu Tyr Arg Asn
1 5 10

<210> 132
<211> 8
<212> PRT
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<400> 132
Val Pro Phe Ile Pro Leu Tyr Arg
1 5

<210> 133

<211> 8
<212> PRT
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<400> 133
Ile Pro Leu Tyr Arg Asn Gly Asp
1 5

<210> 134
<211> 10
<212> PRT
<213> Homosapiens

<400> 134
Ile Pro Leu Tyr Arg Asn Gly Asp Phe Phe
1 5 10

<210> 135
<211> 9
<212> PRT
<213> Homosapiens

<400> 135
Pro Leu Tyr Arg Asn Gly Asp Phe Phe
1 5

<210> 136
<211> 10
<212> PRT
<213> Homosapiens

<400> 136
Pro Leu Tyr Arg Asn Gly Asp Phe Phe Ile
1 5 10

<210> 137
<211> 10
<212> PRT
<213> Homosapiens

<400> 137
Arg Asn Gly Asp Phe Phe Ile Ser Ser Lys
1 5 10

<210> 138
<211> 9
<212> PRT
<213> Homosapiens

<400> 138
Asn Gly Asp Phe Phe Ile Ser Ser Lys
1 5

<210> 139
<211> 9
<212> PRT
<213> Homosapiens

<400> 139
Tyr Ile Lys Ser Tyr Leu Glu Gln Ala
 1   5

<210> 140
<211> 9
<212> PRT
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<400> 140
Ser Tyr Leu Glu Gln Ala Ser Arg Ile
 1   5

<210> 141
<211> 10
<212> PRT
<213> Homosapiens

<400> 141
Glu Gln Ala Ser Arg Ile Trp Ser Trp Leu
 1   5   10

<210> 142
<211> 9
<212> PRT
<213> Homosapiens

<400> 142
Gln Ala Ser Arg Ile Trp Ser Trp Leu
 1   5

<210> 143
<211> 8
<212> PRT
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<400> 143
Ala Ser Arg Ile Trp Ser Trp Leu
 1   5

<210> 144
<211> 9
<212> PRT
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<400> 144
Ala Ser Arg Ile Trp Ser Trp Leu Leu
 1   5

<210> 145
<211> 9
<212> PRT
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<400> 145
Arg Ile Trp Ser Trp Leu Leu Gly Ala
 1   5

<210> 146
<211> 9
<212> PRT
<213> Homosapiens

<400> 146
Gly Pro Ala Tyr Ser Gly Arg Glu Ile
 1   5

<210> 147
<211> 10
<212> PRT
<213> Homosapiens

<400> 147
Gly Pro Ala Tyr Ser Gly Arg Glu Ile Ile
 1   5   10

<210> 148
<211> 8
<212> PRT
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<400> 148
Pro Ala Tyr Ser Gly Arg Glu Ile
 1   5

<210> 149
<211> 9
<212> PRT
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<400> 149
Pro Ala Tyr Ser Gly Arg Glu Ile Ile
 1   5

<210> 150
<211> 10

<212> PRT
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<400> 150
Pro Ala Tyr Ser Gly Arg Glu Ile Ile Tyr
 1   5   10

<210> 151
<211> 9
<212> PRT
<213> Homosapiens

<400> 151
Ala Tyr Ser Gly Arg Glu Ile Ile Tyr
 1   5

<210> 152
<211> 9
<212> PRT
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<400> 152
Gly Arg Glu Ile Ile Tyr Pro Asn Ala
 1   5

<210> 153
<211> 10
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<400> 153
Arg Glu Ile Ile Tyr Pro Asn Ala Ser Leu
 1   5   10

<210> 154
<211> 9
<212> PRT
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<400> 154
Glu Ile Ile Tyr Pro Asn Ala Ser Leu
 1   5

<210> 155
<211> 10
<212> PRT
<213> Homosapiens

<400> 155
Glu Ile Ile Tyr Pro Asn Ala Ser Leu Leu
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<400> 609
Ala Ala Arg Ala Val Phe Leu Ala Leu Ser Ala Gln Leu Leu Gln Ala
 1   5   10   15
Arg Leu Met Lys Glu Glu Ser Pro Val Val
            20   25

<210> 610
<211> 10
<212> PRT
<213> Homosapiens

<400> 610
Arg Leu Glu Pro Glu Asp Gly Thr Ala Leu
 1   5   10

<210> 611

<211> 179
<212> PRT
<213> Homo sapien

<400> 611
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1   5   10   15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20   25   30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35   40   45
Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro
    50   55   60
His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala
65   70   75   80
Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Leu Ala Met Pro Phe Ala
                85   90   95
Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp Ala
            100   105   110
Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val Ser
        115   120   125
Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln Leu
    130   135   140
Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met Trp
145   150   155   160
Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser Gly
                165   170   175
Gln Arg Arg

<210> 612
<211> 180
<212> PRT
<213> Homo sapien

<400> 612
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1   5   10   15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20   25   30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35   40   45
Gly Ala Ala Arg Ala Ser Gly Pro Gly Gly Gly Ala Pro Arg Gly Pro
    50   55   60
His Gly Gly Ala Ala Ser Gly Leu Asn Gly Cys Cys Arg Cys Gly Ala
65   70   75   80
Arg Gly Pro Glu Ser Arg Leu Leu Glu Phe Tyr Leu Ala Met Pro Phe
                85   90   95
Ala Thr Pro Met Glu Ala Glu Leu Ala Arg Arg Ser Leu Ala Gln Asp
            100   105   110
Ala Pro Pro Leu Pro Val Pro Gly Val Leu Leu Lys Glu Phe Thr Val
        115   120   125
Ser Gly Asn Ile Leu Thr Ile Arg Leu Thr Ala Ala Asp His Arg Gln
    130   135   140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145   150   155   160

Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
165 170 175
Gly Gln Arg Arg
180

<210> 613
<211> 180
<212> PRT
<213> Homo sapien

<400> 613
Met Gln Ala Glu Gly Gln Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
1 5 10 15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
20 25 30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
35 40 45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
50 55 60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65 70 75 80
Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
85 90 95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
100 105 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
115 120 125
Ser Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln
130 135 140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145 150 155 160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
165 170 175
Gly Gln Arg Arg
180

<210> 614
<211> 180
<212> PRT
<213> Homo sapien

<400> 614
Met Gln Ala Glu Gly Gln Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
1 5 10 15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
20 25 30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
35 40 45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
50 55 60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65 70 75 80
Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
85 90 95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp

```
            100                 105                 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
        115                 120                 125
Ser Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln
    130                 135                 140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145                 150                 155                 160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Pro Ser
                165                 170                 175
Gly Gln Arg Arg
            180
```

<210> 615
<211> 210
<212> PRT
<213> Homo sapien

<400> 615

```
Met Gln Ala Glu Gly Gln Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50                  55                  60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65                  70                  75                  80
Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
                85                  90                  95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
            100                 105                 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
        115                 120                 125
Ser Gly Asn Leu Leu Phe Met Ser Val Arg Asp Gln Asp Arg Glu Gly
    130                 135                 140
Ala Gly Arg Met Arg Val Val Gly Trp Gly Leu Gly Ser Ala Ser Pro
145                 150                 155                 160
Glu Gly Gln Lys Ala Arg Asp Leu Arg Thr Pro Lys His Lys Val Ser
                165                 170                 175
Glu Gln Arg Pro Gly Thr Pro Gly Pro Pro Pro Pro Glu Gly Ala Gln
            180                 185                 190
Gly Asp Gly Cys Arg Gly Val Ala Phe Asn Val Met Phe Ser Ala Pro
        195                 200                 205
His Ile
    210
```

<210> 616
<211> 215
<212> PRT
<213> Homo sapien

<400> 616

```
Met Gln Ala Glu Gly Gln Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
```

```
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Gly
    50                  55                  60
Ala Pro Arg Gly Pro His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg
65                  70                  75                  80
Cys Pro Cys Gly Ala Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His
                85                  90                  95
Ile Thr Met Pro Phe Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg
            100                 105                 110
Ile Leu Ser Arg Asp Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu
        115                 120                 125
Lys Asp Phe Thr Val Ser Gly Asn Leu Leu Phe Met Ser Val Arg Asp
    130                 135                 140
Gln Asp Arg Glu Gly Ala Gly Arg Met Arg Val Val Gly Trp Gly Leu
145                 150                 155                 160
Gly Ser Ala Ser Pro Glu Gly Gln Lys Ala Arg Asp Leu Arg Thr Pro
                165                 170                 175
Lys His Lys Val Ser Glu Gln Arg Pro Gly Thr Pro Gly Pro Pro Pro
            180                 185                 190
Pro Glu Gly Ala Gln Gly Asp Gly Cys Arg Gly Val Ala Phe Asn Val
        195                 200                 205
Met Phe Ser Ala Pro His Ile
    210                 215
```

<210> 617
<211> 210
<212> PRT
<213> Homo sapien

<400> 617

```
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50                  55                  60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65                  70                  75                  80
Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
                85                  90                  95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
            100                 105                 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
        115                 120                 125
Ser Gly Asn Leu Leu Phe Met Ser Val Arg Asp Gln Asp Arg Glu Gly
    130                 135                 140
Ala Gly Arg Met Arg Val Val Gly Trp Gly Leu Gly Ser Ala Ser Pro
145                 150                 155                 160
Glu Gly Gln Lys Ala Arg Asp Leu Arg Thr Pro Lys His Lys Val Ser
                165                 170                 175
Glu Gln Arg Pro Gly Thr Pro Gly Pro Pro Pro Pro Glu Gly Ala Gln
```

```
            180                 185                 190
Gly Asp Gly Cys Arg Gly Val Ala Phe Asn Val Met Phe Ser Ala Pro
        195                 200                 205
His Ile
    210
```

<210> 618
<211> 179
<212> PRT
<213> Homo sapien

<400> 618

```
Met Gln Ala Glu Gly Arg Gly Thr Gly Gly Ser Thr Gly Asp Ala Asp
 1               5                  10                  15
Gly Pro Gly Gly Pro Gly Ile Pro Asp Gly Pro Gly Gly Asn Ala Gly
            20                  25                  30
Gly Pro Gly Glu Ala Gly Ala Thr Gly Gly Arg Gly Pro Arg Gly Ala
        35                  40                  45
Gly Ala Ala Arg Ala Ser Gly Pro Arg Gly Gly Ala Pro Arg Gly Pro
    50                  55                  60
His Gly Gly Ala Ala Ser Ala Gln Asp Gly Arg Cys Pro Cys Gly Ala
65                  70                  75                  80
Arg Arg Pro Asp Ser Arg Leu Leu Gln Leu His Ile Thr Met Pro Phe
                85                  90                  95
Ser Ser Pro Met Glu Ala Glu Leu Val Arg Arg Ile Leu Ser Arg Asp
            100                 105                 110
Ala Ala Pro Leu Pro Arg Pro Gly Ala Val Leu Lys Asp Phe Thr Val
        115                 120                 125
Ser Gly Asn Leu Leu Phe Ile Arg Leu Thr Ala Ala Asp His Arg Gln
    130                 135                 140
Leu Gln Leu Ser Ile Ser Ser Cys Leu Gln Gln Leu Ser Leu Leu Met
145                 150                 155                 160
Trp Ile Thr Gln Cys Phe Leu Pro Val Phe Leu Ala Gln Pro Ser Gly
                165                 170                 175
Gln Arg Arg
```

<210> 619
<211> 30
<212> PRT
<213> Homo sapien

<400> 619

```
Ala Phe Ser Pro Gln Gly Met Pro Glu Gly Asp Leu Val Tyr Val Asn
 1               5                  10                  15
Tyr Ala Arg Thr Glu Asp Phe Phe Lys Leu Glu Arg Asp Met
            20                  25                  30
```

<210> 620
<211> 30
<212> PRT
<213> Homo sapien

<400> 620

Arg Gly Ile Ala Glu Ala Val Gly Leu Pro Ser Ile Pro Val His Pro
1 5 10 15
Ile Gly Tyr Tyr Asp Ala Gln Lys Leu Leu Glu Lys Met Gly
20 25 30

<210> 621
<211> 33
<212> PRT
<213> Homo sapien

<400> 621
Asn Ile Tyr Asp Leu Phe Val Trp Met His Tyr Tyr Val Ser Met Asp
1 5 10 15
Ala Leu Leu Gly Gly Ser Glu Ile Trp Arg Asp Ile Asp Phe Ala His
20 25 30
Glu

<210> 622
<211> 27
<212> PRT
<213> Homo sapien

<400> 622
Leu Arg Arg His Arg Pro Leu Gln Glu Val Tyr Pro Glu Ala Asn Ala
1 5 10 15
Pro Ile Gly His Asn Arg Glu Ser Tyr Met Val
20 25

<210> 623
<211> 35
<212> PRT
<213> Homo sapien

<400> 623
Asn Ala Pro Ile Gly His Asn Arg Glu Ser Tyr Met Val Pro Phe Ile
1 5 10 15
Pro Leu Tyr Arg Asn Gly Asp Phe Phe Ile Ser Ser Lys Asp Leu Gly
20 25 30
Tyr Asp Tyr
35

<210> 624
<211> 28
<212> PRT
<213> Homo sapien

<400> 624
Pro Asp Ser Phe Gln Asp Tyr Ile Lys Ser Tyr Leu Glu Gln Ala Ser
1 5 10 15
Arg Ile Trp Ser Trp Leu Leu Gly Ala Ala Met Val
20 25

<210> 625
<211> 27
<212> PRT
<213> Homo sapien

<400> 625
Gly Pro Ala Tyr Ser Gly Arg Glu Ile Ile Tyr Pro Asn Ala Ser Leu
 1   5   10   15
Leu Ile Gln Asn Ile Ile Gln Asn Asp Thr Gly
            20   25

<210> 626
<211> 29
<212> PRT
<213> Homo sapien

<400> 626
Asn Glu Glu Ala Thr Gly Gln Phe Arg Val Tyr Pro Glu Leu Pro Lys
 1   5   10   15
Pro Ser Ile Ser Ser Asn Asn Ser Lys Pro Val Glu Asp
            20   25

<210> 627
<211> 27
<212> PRT
<213> Homo sapien

<400> 627
Arg Ser Asp Ser Val Ile Leu Asn Val Leu Tyr Gly Pro Asp Ala Pro
 1   5   10   15
Thr Ile Ser Pro Leu Asn Thr Ser Tyr Arg Ser
            20   25

<210> 628
<211> 32
<212> PRT
<213> Homo sapien

<400> 628
Ala Pro Thr Ile Ser Pro Leu Asn Thr Ser Tyr Arg Ser Gly Glu Asn
 1   5   10   15
Leu Asn Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser
            20   25   30

<210> 629
<211> 28
<212> PRT
<213> Homo sapien

<400> 629
Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Phe Val Asn
 1   5   10   15

Gly Thr Phe Gln Gln Ser Thr Gln Glu Leu Phe Ile
20 25

<210> 630
<211> 28
<212> PRT
<213> Homo sapien

<400> 630
Asn Arg Thr Thr Val Thr Thr Ile Thr Val Tyr Ala Glu Pro Pro Lys
1 5 10 15
Pro Phe Ile Thr Ser Asn Asn Ser Asn Pro Val Glu
20 25

<210> 631
<211> 28
<212> PRT
<213> Homo sapien

<400> 631
Leu Ser Val Thr Arg Asn Asp Val Gly Pro Tyr Glu Cys Gly Ile Gln
1 5 10 15
Asn Glu Leu Ser Val Asp His Ser Asp Pro Val Ile
20 25

<210> 632
<211> 27
<212> PRT
<213> Homo sapien

<400> 632
His Ser Asp Pro Val Ile Leu Asn Val Leu Tyr Gly Pro Asp Asp Pro
1 5 10 15
Thr Ile Ser Pro Ser Tyr Thr Tyr Tyr Arg Pro
20 25

<210> 633
<211> 33
<212> PRT
<213> Homo sapien

<400> 633
Asp Asp Pro Thr Ile Ser Pro Ser Tyr Thr Tyr Tyr Arg Pro Gly Val
1 5 10 15
Asn Leu Ser Leu Ser Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr
20 25 30
Ser

<210> 634
<211> 28
<212> PRT

<213> Homo sapien

<400> 634
Cys His Ala Ala Ser Asn Pro Pro Ala Gln Tyr Ser Trp Leu Ile Asp
 1   5   10   15
Gly Asn Ile Gln Gln His Thr Gln Glu Leu Phe Ile
            20   25

<210> 635
<211> 27
<212> PRT
<213> Homo sapien

<400> 635
Arg Ser Asp Pro Val Thr Leu Asp Val Leu Tyr Gly Pro Asp Thr Pro
 1   5   10   15
Ile Ile Ser Pro Pro Asp Ser Ser Tyr Leu Ser
            20   25

<210> 636
<211> 28
<212> PRT
<213> Homo sapien

<400> 636
Thr Pro Ile Ile Ser Pro Pro Asp Ser Ser Tyr Leu Ser Gly Ala Asn
 1   5   10   15
Leu Asn Leu Ser Cys His Ser Ala Ser Asn Pro Ser
            20   25

<210> 637
<211> 27
<212> PRT
<213> Homo sapien

<400> 637
Cys His Ser Ala Ser Asn Pro Ser Pro Gln Tyr Ser Trp Arg Ile Asn
 1   5   10   15
Gly Ile Pro Gln Gln His Thr Gln Val Leu Phe
            20   25

<210> 638
<211> 35
<212> PRT
<213> Homo sapien

<400> 638
Ala Lys Ile Thr Pro Asn Asn Asn Gly Thr Tyr Ala Cys Phe Val Ser
 1   5   10   15
Asn Leu Ala Thr Gly Arg Asn Asn Ser Ile Val Lys Ser Ile Thr Val
            20   25   30
Ser Ala Ser
        35

<210> 639
<211> 27
<212> PRT
<213> Homo sapien

<400> 639
Arg Ser Thr Tyr Arg Pro Arg Pro Arg Arg Tyr Val Glu Pro Pro Glu
 1   5   10   15
Met Ile Gly Pro Met Arg Pro Glu Gln Phe Ser
            20   25

<210> 640
<211> 27
<212> PRT
<213> Homo sapien

<400> 640
Lys Thr Pro Glu Glu Glu Met Arg Ser His Tyr Val Ala Gln Thr Gly
 1   5   10   15
Ile Leu Trp Leu Leu Met Asn Asn Cys Phe Leu
            20   25

<210> 641
<211> 26
<212> PRT
<213> Homo sapien

<400> 641
Arg Ser His Tyr Val Ala Gln Thr Gly Ile Leu Trp Leu Leu Met Asn
 1   5   10   15
Asn Cys Phe Leu Asn Leu Ser Pro Arg Lys
            20   25

<210> 642
<211> 27
<212> PRT
<213> Homo sapien

<400> 642
Ser Thr Asp Pro Pro Gln Ser Pro Gln Gly Ala Ser Ala Phe Pro Thr
 1   5   10   15
Thr Ile Asn Phe Thr Arg Gln Arg Gln Pro Ser
            20   25

<210> 643
<211> 28
<212> PRT
<213> Homo sapien

<400> 643
Ala Glu Met Leu Glu Ser Val Ile Lys Asn Tyr Lys His Cys Phe Pro

```
 1               5                   10                  15
Glu Ile Phe Gly Lys Ala Ser Glu Ser Leu Gln Leu
            20                  25
```

<210> 644
<211> 28
<212> PRT
<213> Homo sapien

<400> 644
```
Leu Trp Gly Pro Arg Ala Leu Ile Glu Thr Ser Tyr Val Lys Val Leu
 1               5                   10                  15
His His Thr Leu Lys Ile Gly Gly Glu Pro His Ile
            20                  25
```

<210> 645
<211> 28
<212> PRT
<213> Homo sapien

<400> 645
```
Leu His His Thr Leu Lys Ile Gly Gly Glu Pro His Ile Ser Tyr Pro
 1               5                   10                  15
Pro Leu His Glu Arg Ala Leu Arg Glu Gly Glu Glu
            20                  25
```

<210> 646
<211> 28
<212> PRT
<213> Homo sapien

<400> 646
```
Leu His His Met Val Lys Ile Ser Gly Gly Pro His Ile Ser Tyr Pro
 1               5                   10                  15
Pro Leu His Glu Trp Val Leu Arg Glu Gly Glu Glu
            20                  25
```

<210> 647
<211> 28
<212> PRT
<213> Homo sapien

<400> 647
```
Gly Cys Trp Tyr Cys Arg Arg Arg Asn Gly Tyr Arg Ala Leu Met Asp
 1               5                   10                  15
Lys Ser Leu His Val Gly Thr Gln Cys Ala Leu Thr
            20                  25
```

<210> 648
<211> 28
<212> PRT
<213> Homo sapien

<400> 648
Ser Tyr Ile Ser Pro Glu Lys Glu Glu Gln Tyr Ile Ala Gln Phe Thr
 1   5   10   15
Ser Gln Phe Leu Ser Leu Gln Cys Leu Gln Ala Leu
            20   25

<210> 649
<211> 30
<212> PRT
<213> Homo sapien

<400> 649
Ser Asn Leu Thr His Val Leu Tyr Pro Val Pro Leu Glu Ser Tyr Glu
 1   5   10   15
Asp Ile His Gly Thr Leu His Leu Glu Arg Leu Ala Tyr Leu
            20   25   30

<210> 650
<211> 29
<212> PRT
<213> Homo sapien

<400> 650
His Gly Thr Leu His Leu Glu Arg Leu Ala Tyr Leu His Ala Arg Leu
 1   5   10   15
Arg Glu Leu Leu Cys Glu Leu Gly Arg Pro Ser Met Val
            20   25

<210> 651
<211> 27
<212> PRT
<213> Homo sapien

<400> 651
Thr Gln Glu Pro Ala Leu Gly Thr Thr Cys Tyr Ala Ser Gly Trp Gly
 1   5   10   15
Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys
            20   25

<210> 652
<211> 33
<212> PRT
<213> Homo sapien

<400> 652
Gly Trp Gly Ser Ile Glu Pro Glu Glu Phe Leu Thr Pro Lys Lys Leu
 1   5   10   15
Gln Cys Val Asp Leu His Val Ile Ser Asn Asp Val Cys Ala Gln Val
            20   25   30
His

<210> 653
<211> 28
<212> PRT
<213> Homo sapien

<400> 653
Ser Leu Asn Cys Val Asp Asp Ser Gln Asp Tyr Tyr Val Gly Lys Lys
 1   5   10   15
Asn Ile Thr Cys Cys Asp Thr Asp Leu Cys Asn Ala
            20   25

<210> 654
<211> 28
<212> PRT
<213> Homo sapien

<400> 654
Arg Asp Ser Trp Val Phe Gly Gly Ile Asp Pro Gln Ser Gly Ala Ala
 1   5   10   15
Val Val His Glu Ile Val Arg Ser Phe Gly Thr Leu
            20   25

<210> 655
<211> 27
<212> PRT
<213> Homo sapien

<400> 655
Cys Arg Asp Tyr Ala Val Val Leu Arg Lys Tyr Ala Asp Lys Ile Tyr
 1   5   10   15
Ser Ile Ser Met Lys His Pro Gln Glu Met Lys
            20   25

<210> 656
<211> 28
<212> PRT
<213> Homo sapien

<400> 656
Ser Met Lys His Pro Gln Glu Met Lys Thr Tyr Ser Val Ser Phe Asp
 1   5   10   15
Ser Leu Phe Ser Ala Val Lys Asn Phe Thr Glu Ile
            20   25

<210> 657
<211> 30
<212> PRT
<213> Homo sapien

<400> 657
Lys Asn Gly Glu Asn Ile Asp Ser Asp Pro Ala Leu Gln Lys Val Asn
 1   5   10   15

Phe Leu Pro Val Leu Glu Gln Val Gly Asn Ser Asp Cys His
20 25 30

<210> 658
<211> 27
<212> PRT
<213> Homo sapien

<400> 658
Glu Tyr Glu Arg Glu Glu Thr Arg Gln Val Tyr Met Asp Leu Asn Ser
1 5 10 15
Asn Ile Glu Lys Met Ile Thr Ala Phe Glu Glu
20 25

<210> 659
<211> 30
<212> PRT
<213> Homo sapien

<400> 659
Gln Gln Arg Leu Glu Asn Tyr Glu Asp Gln Leu Ile Ile Leu Thr Met
1 5 10 15
Glu Leu Gln Lys Thr Ser Ser Glu Leu Glu Glu Met Thr Lys
20 25 30

<210> 660
<211> 27
<212> PRT
<213> Homo sapien

<400> 660
Ser Ser Glu Leu Glu Glu Met Thr Lys Leu Thr Asn Asn Lys Glu Val
1 5 10 15
Glu Leu Glu Glu Leu Lys Lys Val Leu Gly Glu
20 25

<210> 661
<211> 28
<212> PRT
<213> Homo sapien

<400> 661
Gln Gln Ala Ser Pro Pro Pro Asn Glu Leu Thr Gln Glu Thr Ser Asp
1 5 10 15
Met Thr Leu Glu Leu Lys Asn Gln Gln Glu Asp Ile
20 25

<210> 662
<211> 34
<212> PRT
<213> Homo sapien

<400> 662
Ile Ile Asn Asn Lys Lys Gln Glu Glu Arg Met Leu Thr Gln Ile Glu
 1   5   10   15
Asn Leu Gln Glu Thr Glu Thr Gln Leu Arg Asn Glu Leu Glu Tyr Val
            20   25   30
Arg Glu

<210> 663
<211> 27
<212> PRT
<213> Homo sapien

<400> 663
Ile Glu Asn Leu Gln Glu Thr Glu Thr Gln Leu Arg Asn Glu Leu Glu
 1   5   10   15
Tyr Val Arg Glu Glu Leu Lys Gln Lys Arg Asp
            20   25

<210> 664
<211> 37
<212> PRT
<213> Homo sapien

<400> 664
Ile Glu Asp Lys Lys Ile Ser Glu Glu Asn Leu Leu Glu Glu Val Glu
 1   5   10   15
Lys Ala Lys Val Ile Ala Asp Glu Ala Val Lys Leu Gln Lys Glu Ile
            20   25   30
Asp Lys Arg Cys Gln
        35

<210> 665
<211> 27
<212> PRT
<213> Homo sapien

<400> 665
Lys Glu Ile Asp Lys Arg Cys Gln His Lys Ile Ala Glu Met Val Ala
 1   5   10   15
Leu Met Glu Lys His Lys His Gln Tyr Asp Lys
            20   25

<210> 666
<211> 35
<212> PRT
<213> Homo sapien

<400> 666
Lys Glu Gln Glu Gln Ser Ser Leu Arg Ala Ser Leu Glu Ile Glu Leu
 1   5   10   15
Ser Asn Leu Lys Ala Glu Leu Leu Ser Val Lys Lys Gln Leu Glu Ile
            20   25   30

Glu Arg Glu
35

<210> 667
<211> 31
<212> PRT
<213> Homo sapien

<400> 667
Lys Glu Lys Lys Asp Lys Lys Thr Gln Thr Phe Leu Leu Glu Thr Pro
1 5 10 15
Asp Ile Tyr Trp Lys Leu Asp Ser Lys Ala Val Pro Ser Gln Thr
20 25 30

<210> 668
<211> 28
<212> PRT
<213> Homo sapien

<400> 668
Lys Leu Asp Ser Lys Ala Val Pro Ser Gln Thr Val Ser Arg Asn Phe
1 5 10 15
Thr Ser Val Asp His Gly Ile Ser Lys Asp Lys Arg
20 25

<210> 669
<211> 28
<212> PRT
<213> Homo sapien

<400> 669
His Gly Ile Ser Lys Asp Lys Arg Asp Tyr Leu Trp Thr Ser Ala Lys
1 5 10 15
Asn Thr Leu Ser Thr Pro Leu Pro Lys Ala Tyr Thr
20 25

<210> 670
<211> 28
<212> PRT
<213> Homo sapien

<400> 670
Lys Arg Asp Tyr Leu Trp Thr Ser Ala Lys Asn Thr Leu Ser Thr Pro
1 5 10 15
Leu Pro Lys Ala Tyr Thr Val Lys Thr Pro Thr Lys
20 25

<210> 671
<211> 27
<212> PRT
<213> Homo sapien

<400> 671
Met Asn Gly Asp Asp Ala Phe Ala Arg Arg Pro Thr Val Gly Ala Gln
 1   5   10   15
Ile Pro Glu Lys Ile Gln Lys Ala Phe Asp Asp
            20   25

<210> 672
<211> 27
<212> PRT
<213> Homo sapien

<400> 672
Glu Thr Asn Asn Lys Lys Lys Glu Phe Glu Glu Thr Ala Lys Lys Val
 1   5   10   15
Arg Arg Ala Ile Glu Gln Leu Ala Ala Met Asp
            20   25

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<400> 673
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Ala Arg Leu Met Lys Glu Glu Ser Pro Val Val Ser Trp Arg Leu Glu
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Pro Glu Asp
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<400> 674
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 1   5

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1 5 10 15
Phe

<210> 678
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1 5 10 15
Phe Tyr

<210> 679
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<400> 679
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1 5 10

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1 5 10 15
Phe Tyr Val

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Phe Tyr Val Tyr
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 1   5   10

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Tyr Phe Ser Lys Glu Glu Trp Glu Lys Met Lys Ala Ser Glu Lys Ile
 1   5   10   15
Phe Tyr Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu
            20   25   30

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<400> 684
Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly Phe
 1   5   10

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<400> 685
Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly Phe
 1   5   10

<210> 686
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<400> 686
Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly Phe
 1   5   10   15

<210> 687
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<212> PRT
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<400> 687
Tyr Phe Ser Lys Glu Glu Trp Glu Lys Met Lys Ala Ser Glu Lys Ile
 1   5   10   15
Phe Tyr Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly
            20   25   30
Phe

<210> 688
<211> 35
<212> PRT
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<400> 688
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 1   5   10   15
Phe Tyr Val Tyr Met Lys Arg Lys Tyr Glu Ala Met Thr Lys Leu Gly
            20   25   30
Phe Lys Ala
        35

<210> 689
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<400> 689
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 1   5   10

<210> 690
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<400> 690
Glu Ala Ala Gly Ile Gly Ile Leu Thr Val
 1   5   10